VOL. 33 NO. 2

Textile bulletin

SEPTEMBER • 15 • 1947

Six papers of particular interest to cotton manufacturers were delivered during this year's Spinner-Breeder Conference. These are published in this issue. See Page 17.

ADVERTISING INDEX—PAGE 55

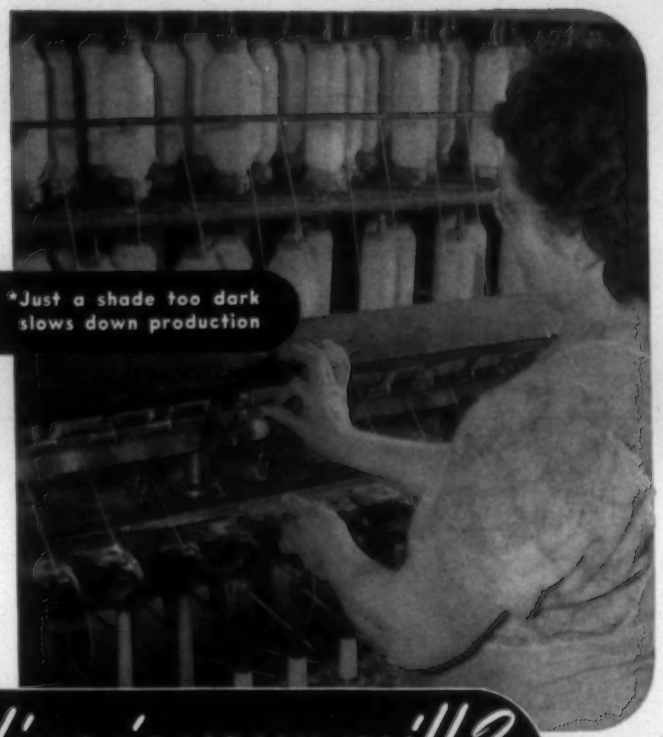
Published Semi-Monthly by Clark Publishing Company, 218 W. Morehead St., Charlotte, N. C. Subscription $1.50 per year in advance. Entered as second-class mail matter March 2, 1911, at Postoffice, Charlotte, N. C., under Act of Congress, March 2, 1897.

Borderline Vision*

may be shading your profits!

● GOOD LIGHTING today is an important production tool. But the difference between good lighting and Borderline Vision—lighting that's just a shade too dim—is often hard to see at a glance.

The best lighting today is a carefully engineered product—engineered to pay you dividends in increased, *better* work—better employee morale—and decreased costs. Wheeler engineers have been paying these dividends to manufacturers through Wheeler Skilled Lighting ever since 1881. Wheeler Reflectors give maximum illumination from standard



*Just a shade too dark slows down production

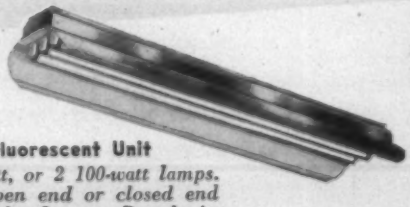
Which side of the line is your mill?

lamps because they *control* light. Their high reflection factor puts light to work where it belongs—on the job.

You'll see the real difference between good lighting and Borderline Vision in your production figures when you put Wheeler Skilled Lighting to work in your mill. Write Wheeler Reflector Co., 275 Congress St., Boston 10, Mass. Also New York and principal cities.

Distributed Exclusively Through Electrical Wholesalers

Just right means more, better work



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For 2 or 3 40-watt, or 2 100-watt lamps. Available with open end or closed end porcelain enameled reflectors. Broad wiring channel with accessible enclosed ballast. For individual or continuous runs.

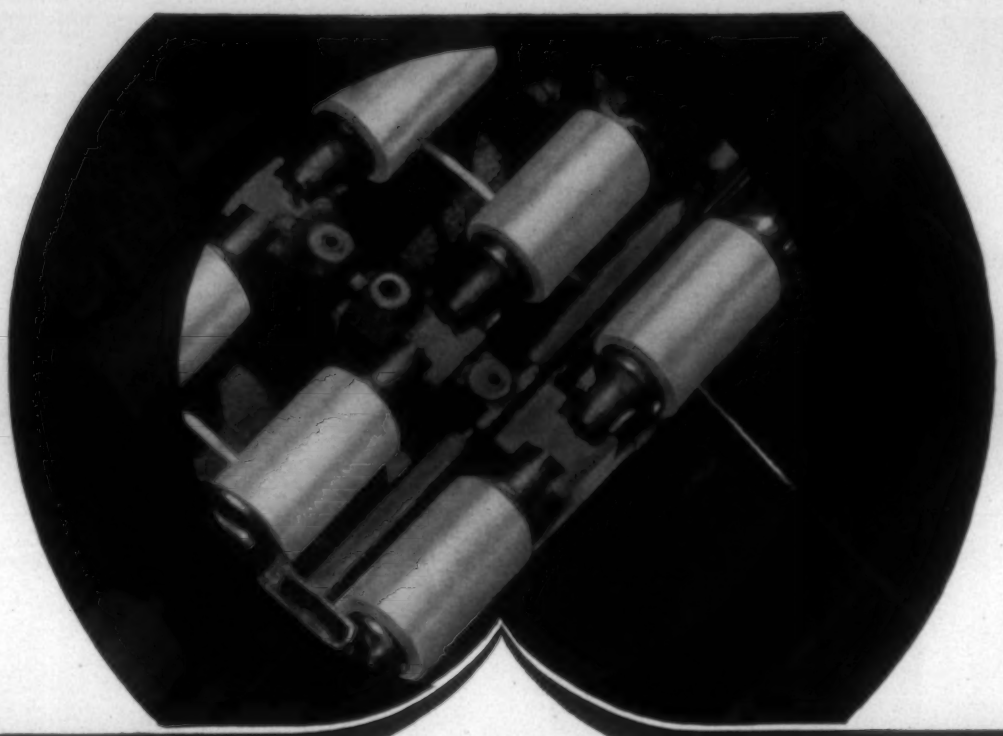
RLM Solid Neck Incandescent Reflector

Maximum lighting efficiency indoors or out. Expertly designed, ruggedly built. Vitreous enamel only, 75 to 1500 watts.

Wheeler REFLECTORS

SKILLED LIGHTING

MADE BY SPECIALISTS IN LIGHTING EQUIPMENT SINCE 1881



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1. Large reduction of ends down.
2. More foreign elements removed from yarn.
3. Specially compounded for uniform wear, lengthening service life.
4. Equally effective for special types of synthetic and synthetic blends of yarn.
5. Not affected by temperature changes.
6. Oil resisting and static free.
7. No grooving—less ends down.
8. Easy to apply.

Whether your frames are equipped with flat clearers or revolving clearers, there is a specially engineered Dayco Roll Covering designed to give you greater uniformity of yarn, increased production with lowered costs.

Dayco Roll Coverings do this because they have ideal cushion, exactly the right coefficient of friction and are unaffected by humidity changes or temperature extremes throughout an exceedingly long life. Their surface is so tough that it never grooves, hollows out, flattens or distorts. Since Daycos are static free, lapping up is practically unknown.

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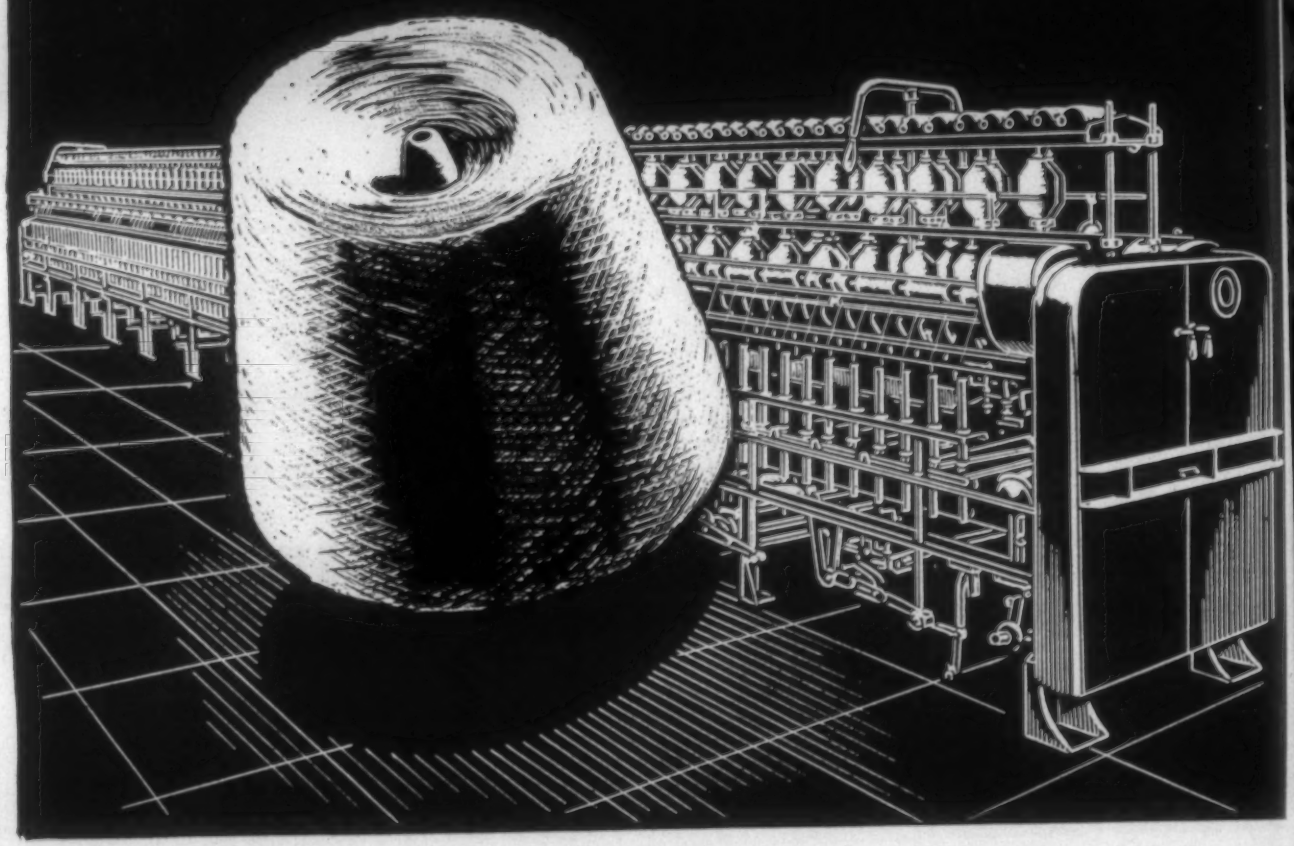

. . . with Tycol spindle oil"

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Reduces spindle drag . . .

Reduces bolster losses . . .

Reduced drag . . .

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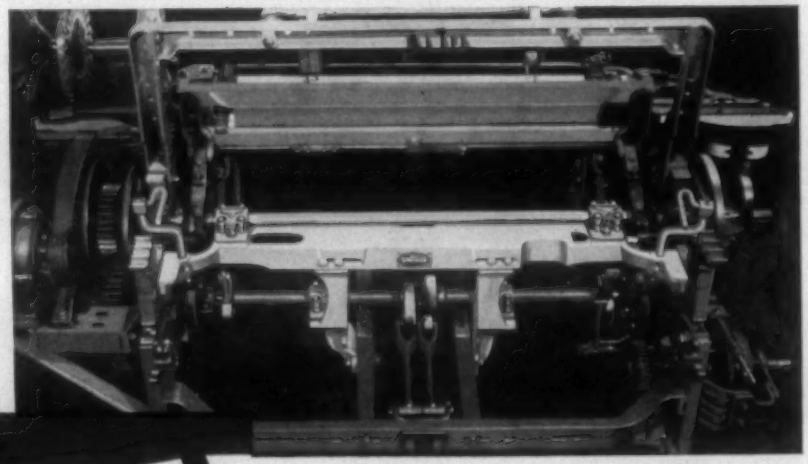
For further information about Tycol Textile Oils, get in touch with your nearest Tide Water Associated Office today.

LUBRICATION—"ENGINEERED TO FIT THE JOB"

WHY WAIT YEARS TO GET NEW LOOMS.....?

PATENTED HUNT SPREADERS GIVE INCREASED PRODUCTION NOW TO YOUR PRESENT LOOM EQUIPMENT!

YOU MAY GET NEW, HIGH-SPEED LOOMS IN THE YEARS AHEAD. YOU NEED HIGH-SPEED WEAVING NOW, WHILE THE MARKET DEMANDS IT -- AND YOU CAN GET IT QUICKLY BY INSTALLING HUNT SPREADERS IN YOUR WEAVE ROOM.



Hunt SPREADERS

Shown as the light portion of the loom photo above, the patented Hunt Spreader assembly is made in sizes to fit practically any loom.

The patented Hunt Spreader braces and strengthens the loom frame, and adds two bearings each to the crankshaft and camshaft. After installation of Hunt Spreaders, looms are steadied, and they operate more smoothly than when they were new. Speeding up to produce more cloth is possible and increases up to 36 picks per minute are reported.

Production of Hunt Spreaders is geared to present needs. More than 1,000 units per month are being made currently. Installation, too, is accomplished with a minimum of interruption. Our trained erectors can install fifty—or five hundred—Hunt Spreaders, quickly and easily.

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SUCCESSORS TO

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We repeat: today's best dollar value in a warp size is

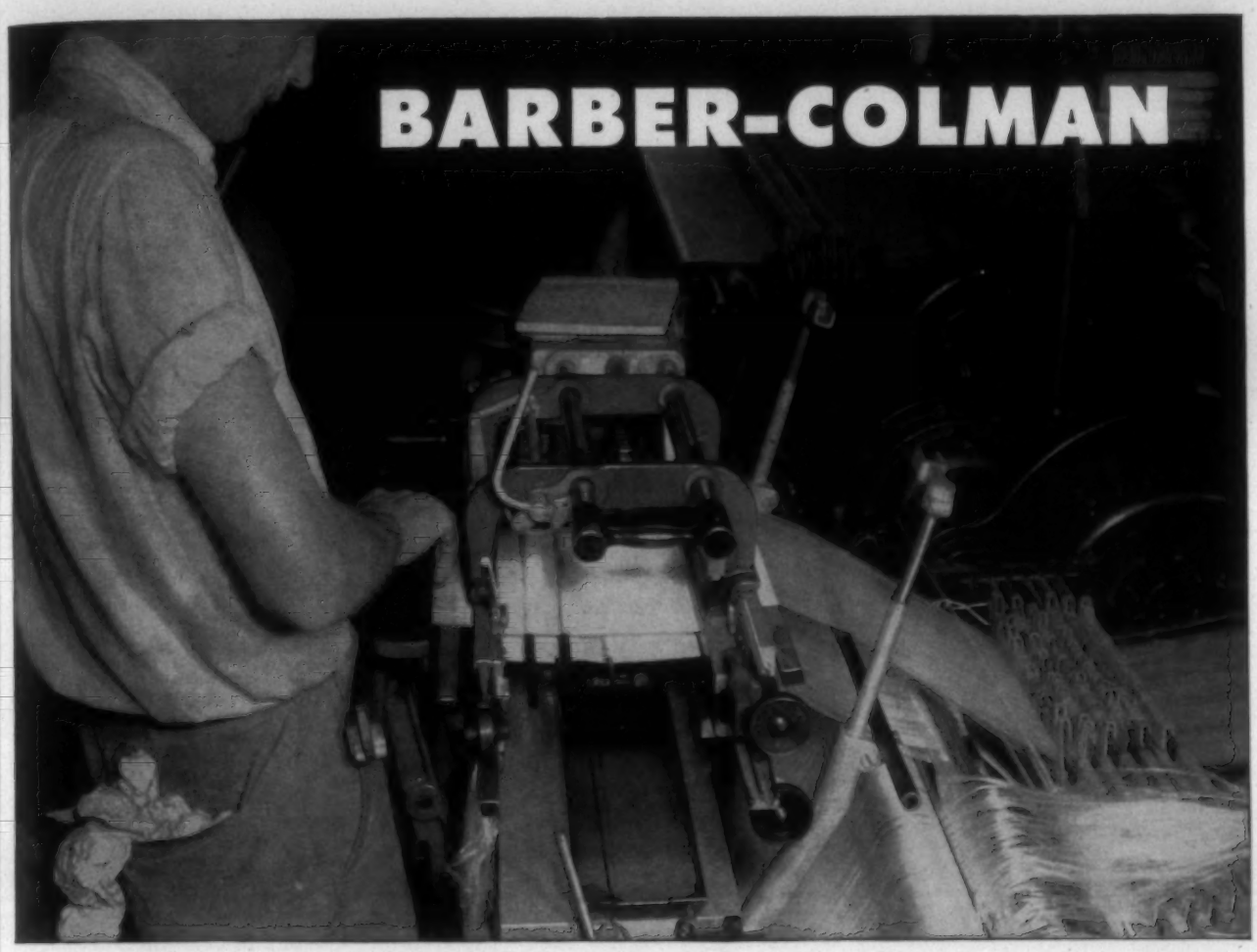
HOUGHTO-SIZE CW

We make that unqualified statement because of our experience—dating back many years — with warp size compounds, and because of the outstanding performance of this newest member of the Houghto-Size family.

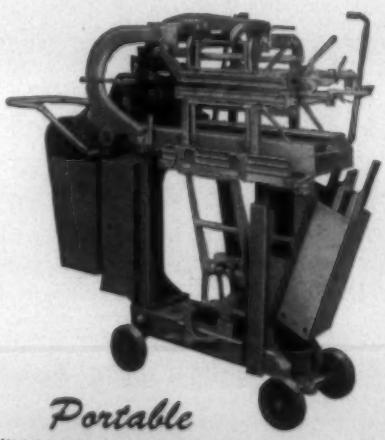
Here is a unit product, combining softener, binder and plasticizer. There's nothing to add except starch and water.

And it's the best dollar value on the market because of its low kettle cost, as compared to other size mixtures. Yet this low cost is not at the expense of quality, for you'll get a smooth-running warp of high breaking strength which won't stick, and which will weave better, stepping up your weave-room efficiency.

So try HOUGHTO-SIZE CW and prepare to be surprised at both cost and quality of sizing. If you would like to conduct your own tests, write E. F. Houghton & Co., Phila. 33, Pa., or Charlotte 1, N. C.



PORTABLE WARP TYING MACHINES MAKE SUBSTANTIAL COST SAVINGS IN SMALL MILLS



Portable
WARP TYING MACHINE

Many of the smaller mills are finding that a Barber-Colman Portable Warp Tying Machine is a profitable investment — even though its full-time capacity is not needed or used. This machine offers a fast and accurate means for tying-in new warp *at the loom.* It can be handled satisfactorily in confined and hard-to-reach spaces and in loom alleys as narrow as 12". An inexperienced hand can learn to operate it capably in a comparatively short time. Overall production capacity of the machine averages 3500 to 4500 ends per hour, varying with the sley of the warp. On high sley warps, production may run as high as 5500 ends per hour. Interchangeable knotter units enable the machine to tie a wide range of counts, and models are available to handle cotton, wool, silk, or synthetics. Tying is accurate and uniform and so much more efficient than common hand methods that the machine will pay for itself quickly in cost savings. *For full details and specific recommendations for your mill, consult your Barber-Colman representative.*

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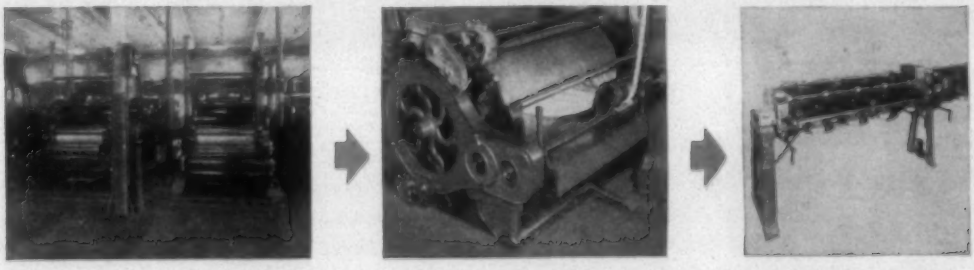
ROCKFORD • ILLINOIS • U. S. A.
FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND

H & B

A Quality machine

THE DRAWING FRAME is the only unit of mill machinery devoted 100% to the achievement of quality. Cotton comes to the drawing frame as sliver and goes from it to the slubber as sliver,—but sliver of the highest quality. To produce sliver of the highest quality H & B unhesitatingly recommends two processes of drawing. By this method a drawing sliver composed of 36 different card slivers goes from drawing frame to slubber. This double drawing process results in more and better parallelization of the fibres and ultimately in more even yarn



RAW COTTON TO LAP TO SLIVER TO SLIVER

This is why we say, *"The drawing frame is the only unit of*

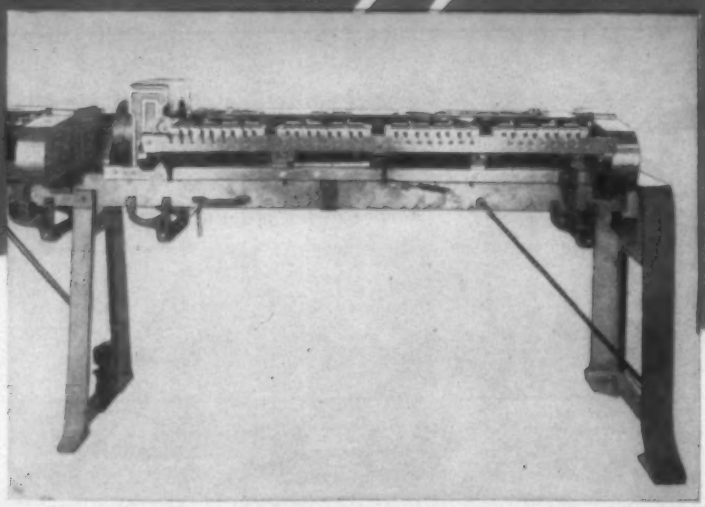
H & B AMERICAN

Builders of Modern

FACTORY, EXECUTIVE OFFICES AND EXPORT

DRAWING FRAME

...for a Quality process



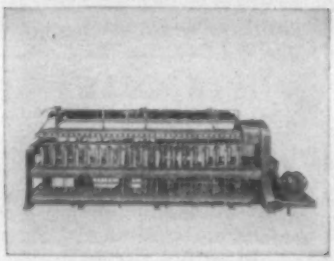
The H & B Drawing Frame incorporates several features that help make it a valued performer in many mills where the emphasis is on the quality of the end product.

1 Most sensitive and accurate electric or mechanical stop motions.

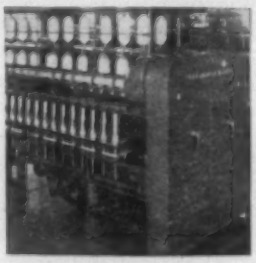
2 Helical cut draft and calender roll gearings.

3 Oil-lite bearings on top rolls.

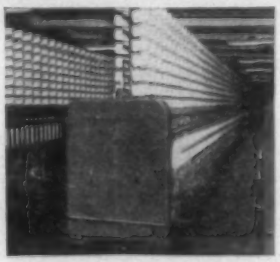
4 Redesigned calender roll covers.



TO ROVING



TO YARN



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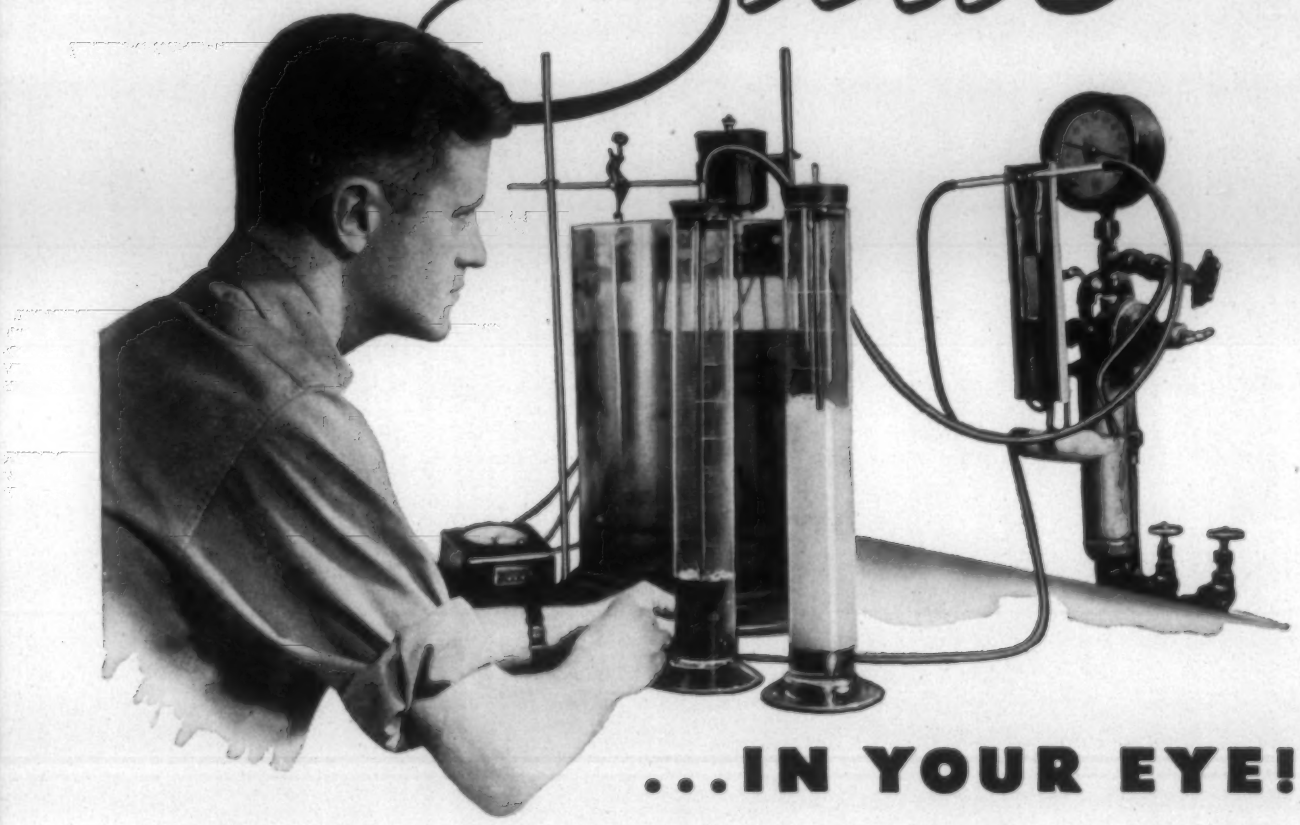
HERE'S *Suds*



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The suds very much in your eye as you look at the photograph above is lubricating oil which foams badly and, if used in valuable equipment, constitutes a hazard to positive lubrication, which can increase maintenance costs.

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FOR MINIMUM FRICTION—
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LILY WHITE OILS
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For Coulier Motion
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FINEST CRUDES + EXPERT RESEARCH and MANUFACTURING CONTROL = OUTSTANDING PERFORMANCE

textile bulletin

VOL. 73 SEPTEMBER 15, 1947 NO. 2

Exclusively published on this and following pages are papers which were delivered during the fourth Spinner-Breeder Conference, sponsored by the Delta Council Advisory Research Committee of Stoneville, Miss., and held at the North Carolina State College School of Textiles, Raleigh, Aug. 28-30. More than 250 delegates, representing breeding, planting, research and manufacturing elements, attended the two-day conference. The papers published in this issue are those of primary interest to textile manufacturers.

COTTON FIBER RESEARCH

By JOHN W. CLARK, President and Treasurer
Locke Cotton Mills Co., Concord, N. C., and Randolph Mills, Inc., Franklinville, N. C.

FOUR hundred and fifty-five years ago Christopher Columbus and his little band were sailing in a westerly direction from Spain in search of vegetable wool, gold and other treasures and hoping to circle the globe and establish a new route to India. The father of Columbus had been a wool scourer and weaver and Columbus was familiar with textile fabrics and knew something of the fine texture of the fabrics made from vegetable wool (cotton) which came from India. He underestimated the size of this globe and when he arrived in this hemisphere he thought he had reached India and called the natives whom he saw Indians. He found the cotton plant growing here and learned that many of the natives were skilled in spinning and weaving the fiber.

The people of Europe showed an immediate interest in cotton but the world moved exceedingly slow in those days and for 300 years the people of the world continued to follow the age-old, slow and tedious method of removing the fiber from the seed that had been in use for thousands of years. It was not until 301 years after Columbus arrived that English brains transplanted to this continent brought out the little mechanical contraption known as the cotton gin which speeded up the process of separating the fibers from the seed and put cotton far out in front of other textile fibers. Cotton acreage began to increase at once and continued to increase till little more than a century later there were 50 million spindles in England spinning cotton yarns with 90 per cent of the cotton used coming from the Southern states of the United States, to say nothing of the spindles in continental Europe and other parts of the world.

English spinners studied the cotton fibers carefully and selected those cottons which had the characteristics they most desired. They then sent their buyers here with instructions to search out and secure these particular cottons. They were much more interested in the character of the fiber than they were in the cleanliness of the cotton. This led to an increased demand for cotton grown from certain seed in certain localities and an increase in production of these specific varieties but there continued to be grown many inferior varieties of cotton. Fortunately the percentage of these inferior varieties has grown less year by year.

It has been well said that the number of refinements and improvements that can be made in any industry are practically unlimited. Over the years improvements have been constantly taking place in the machinery in the textile mills and many times machinery has been discarded on account of obsolescence years before it has worn out. While most of the improvements have been built into the machinery by the machine builders, the suggestions responsible for the improvements have usually come from the men in the mills who have been in close touch with the operations and have had a clear conception of the results the changes would produce.

The textile industry next to agriculture gives employment to more people than any other industry. In the beginning no one had any conception of the expansion to come in cotton textiles or the influence it would have on world economy. For years and years the favorable trade balance of the United States was due to the exports of cotton and through this means much of the accumulated wealth of the British Isles and continental Europe was brought to the United States, but most of this wealth never reached the Southern states. We had the soil and the climatic conditions suitable for cotton cultivation and produced cotton in enormous quantities but the marketing system was not set up with the interest of the grower in mind. Taking the cotton states as a whole, a large crop usually brought a smaller return than a small crop. Under these circumstances it was hardly to be expected that the growers would be overenthusiastic about research and quality improvement. The prominent part played in the market by speculators has operated against stable prices and has made the swings in

the market much wider than they otherwise would have been. This has resulted in making the handling of cotton a rather hazardous undertaking for all concerned—grower, manufacturer and merchant. Only recently through its acreage control plan and loans to farmers at marketing time has the government begun to exert its influence for a more stable market. This is certain to lead to greater interest in fiber study and research in the future.

Today many organizations such as the National Cotton Council, the Cotton-Textile Institute and numerous farm organizations are awake to the importance of cotton in our national economy and are striving to put it in its rightful place. Expert buyers of cotton ordinarily in the past have depended on sight and feel to determine the character of the fiber, but today many of these buyers have the assistance of laboratory aides who by weighing and measuring and through the use of the microscope obtain the facts regarding the mean length of the staple and its variation, fineness and strength and also per cent of immature fibers. In other words the examination is carried to a finer point than ever before and is enabling the manufacturer to accumulate data that will not only be of inestimable value to him but should in time aid the seed breeder in developing the characteristics in the fiber which the manufacturer desires. There has been a decided improvement in cotton in recent years and the days ahead should show far greater improvement.

Gifts of considerable magnitude were made to Eli Whitney by many Southern states as an expression of the appreciation and gratitude for his invention of the cotton gin. These same states could now well afford to make contribution toward cotton fiber research in hopes of increasing the usefulness of the cotton plant and making it of greater service to mankind and at the same time increasing the money income of the Southern states. The world still moves exceedingly slow and we have just begun to explore the possibilities of the cotton plant. Henry Grady said it was gold from the time is loosed its tiny fleece to the sun, and so it is, but the localities that have grown it have not always been the ones who have profited from it.

Research And Rayon Industry Growth

By DR. FRED BONNET, American Viscose Corp., Marcus Hook, Pa.

IT was rather a surprise to have Sandy Campbell invite a rayon man to attend your conference and to honor him by suggesting he speak about research and what it has done for rayon. However, your speaker feels some diffidence in addressing you on this subject since some of the growth and developments in rayon have not been due to any planned research at all. Some of the developments have been due to fortuitous circumstances, some to basic conditions and some to far-sighted policies of the early producers. In dealing with the subject my references will be confined primarily to the viscose type of rayon which is responsible for something like 85 per cent of the world's production of rayon.

In the early days the idea was primarily to produce a man-made fiber which would be like natural silk. For silk was expensive and therefore offered a better chance of success. There was not much research in the early days. But there was considerable wishful thinking which led to quite a lot of get-rich-quick schemes with the result that investors became wary, and showed a lack of interest and confidence in any and all schemes for making "artificial silk." Then too, considerable capital investment was necessary to start a plant, which also was a deterrent.

Of course the natural textile fibers like cotton, wool and silk were taken for granted, and it was thought they did not need research. They had been used for such countless ages that through long experience much had been learned about them. For example, cotton spinners were in the habit of selecting those kinds of cotton which had been found best suited for their purposes. But little was done in the way of research as we understand it today, until in quite recent times when much excellent work has been done in India, in Egypt, by the scientists associated with various research bodies, like the Shirley Institute in England, by our various state agricultural departments, our state universities, the U. S. Department of Agriculture, and the excellent work being done by the cotton breeders, which cannot be too highly commended for it is basic to the entire cotton industry.

For their research work will doubtless do for cotton what the corn breeders research on hybrid corn has done for corn. They will, if they have not already done so, develop a strain or strains of cotton which will grow uniformly and in such a way that the crop will be harvested economically by machinery, while at the same time the yield and quality of the crop will be increased. This should bring down the cost and make many developments with cotton possible which otherwise will not be. This kind of research in natural selection, or genetics, is of course quite different in a way from the chemical and technical research as applied to rayon.

The idea of producing a man-made fiber is, of course, not new. Almost 300 years ago Dr. Robert Hooke in his *Micrographia* suggested producing silky filaments by artificial or mechanical means similar to those of the silk worm. Then later on the French naturalist Rene Reaumur, in 1710 stated that, "Silk is only a liquid gum which has been dried, could we not make silk ourselves with gums and resins?" No doubt a great many trials were made with all the gums, waxes, resins, lacquers then available, but nothing came of these efforts. Moreover, all were directed toward producing a silken fiber, for silk was the "Queen of Fibers." It possessed high luster; it was capable of being most brilliantly dyed in all the colors of the rainbow; it was strong; and it was costly and available only to the select few. It is obvious why such a fiber and its products had such a natural, universal appeal. It is also obvious why men's minds

SANDOZ PRESENTS *The color achievement of the month*

Nylon Flattery BY VAN RAALTE

The confidence that Van Raalte expresses in its slogan "Because You Love Nice Things" is attributable, in part, to the knowledge that the colors used in its hosiery, gloves and underthings are true, uniform, serviceable.

Among Van Raalte suppliers is included Sandoz, manufacturers of dyestuffs that are depended upon — in all branches of the textile industry — for efficiency in handling and maximum resistance to the effects of wear.

Typical of Sandoz' own "color achievements" are the Artisil direct dyes for nylon hosiery. The latest member of this series — ARTISIL DIRECT YELLOW G — differs from many acetate yellows in that it dyes full strength on nylon by the combined dyeing and scouring methods. The high pH does not affect the shade, strength or fastness.

For finishing, GERANINE HC is recommended. This cationic softener does not yellow whites or change the shade of dyed goods. Light fastness is not impaired.

For acid, chrome or direct dyes... or auxiliary chemicals... for both natural and synthetic fibres... be guided by the successful "color achievements" you have been seeing in these Sandoz advertisements. Sandoz application laboratories are located in New York, Boston, Philadelphia, Los Angeles, Charlotte, Toronto, where stocks in wide range are carried. Other branches are in Chicago, Paterson and Providence.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N. Y.

SANDOZ *thinks ahead with textiles*

THIS IS NO. 65 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

DELIVERY POINT OF THREAD GUIDE (No. 50 Winding Machine)

It is a good idea to check occasionally on the relation of the Thread Guide and its delivery point to the winding package. When installing new porcelain guides this always should be done. The operation is very simple, involving only the use of a piece of carbon paper and possibly a pair of pliers.

Place the carbon paper, carbon side out, between empty cone and Thread Guide. Press the guide against the paper and draw the paper straight up.

1. If the Guide is in correct adjustment, there will be a carbon smudge at the bottom of the V-shaped thread slot centrally located across the face of the Guide.

2. If the V of the slot cuts into the smudge, it shows that the V is too low. The Thread Guide Holder should be bent backward with the pliers until the V just touches the paper.

3. If the V does not touch the smudge, the Guide is too high. The Holder should be bent forward slightly.

4. If the carbon smudges at only one side of the slot, the Guide is off center. The Holder should be twisted until the carbon paper will smudge uniformly across the face of the Guide.

Sometimes Guides are mistakenly used with a Traverse Frame Back of different taper, which will cause wear in one or both parts. The fault is evidenced by a polished surface on the edge of the Guide that is in contact with the Back. Guides used with the correct Back will wear very slowly and will show this wear as a polished surface across the entire width of the Guide. If a Guide used with the correct Back shows wear on one edge only, it has become bent and should be given a slight twist toward the high side so that it will conform to the contour of the Back.

Fig. 2 Shiny surface at left shows extra wear. Guide does not lie flat against Traverse Frame Back.

CORRECT SETTING OF BREAKAGE LEVER (Roto-Coner*)

The purpose of the Breakage Lever is to keep the stopping parts out of operation while winding is taking place and to cause them to work promptly when a break in the yarn occurs or the end runs out. Improper setting may cause slow stopping, unnecessary end breakage, and the necessity of applying extra tension on the yarn.

The Breakage Lever should be located close to the Bail at the back of the Tension Bracket. The clamps that hold the Breakage Lever have long slots so that they can be adjusted back and forth to assist in regulating the action of the Breakage Lever.

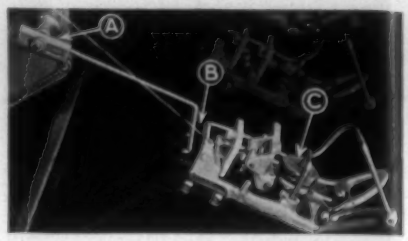

Fig. 3 Bail B is too far from Tension Bracket and Clamps A are improperly adjusted. Extra Tension Weight C is used to hold down the Bail. This causes bad winding.

They should be far enough back to meet the following requirements. There must be no vibration of the Breakage Lever while winding. The Breakage Lever must act promptly when yarn breaks or runs out, so that the cone will lift promptly and yarn will not wrap around the Rotary Traverse.

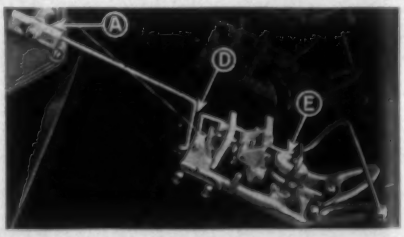

Fig. 4 Bail D is moved close to Tension Bracket and Clamp A set to nearly balance the Bail. No extra tension is needed at E.

When machines are fitted with the early type of Breakage Lever Clamp, which did not have the adjustment feature, it may be necessary to add Breakage Lever Counterweight 50-618-11X to balance the Lever when running fine yarn.

It is bad practice to add tension in order to hold down the Breakage Lever. Extra tension makes hard packages, strains the yarn, and in the case of weak or fine yarn causes unnecessary end breakage. With the Breakage Lever properly located and adjusted, counts of yarn finer than 100/1 can readily be wound. For this type of winding we recommend the use of the regular bottom tension, Tension 90-117F for the top Tension, Felt Washer WA-1004 and either WA-600 or WA-663 Tension Weights.

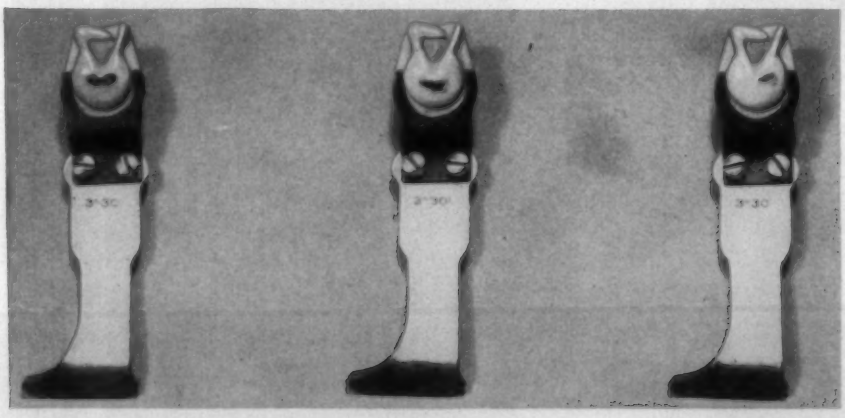

Fig. 1 Left, carbon smudges uniformly at bottom of V, so Guide is correctly set. Center, smudge is below V, so Guide Holder should be bent forward. Right, smudge is on right-hand side, so Holder should be bent counter-clockwise.

*Reg. U.S. Pat. Off. September, 1947

turned to the idea of in some way making such a fiber as suggested by Hooke and Reaumur.

But it was a long time before the idea could be developed into spinning a commercially satisfactory textile fiber. It had to await developments in chemistry. Very briefly, the quite dissociated steps which led to the development of rayon may be of interest:

1846—Gun cotton or nitro cellulose was first made by Schoenbein, by treating cotton with nitric and sulphuric acid. The resulting nitro cellulose could be dissolved in an alcohol-ether mixture to give the thick solution known as collodion.

1857—The botanist Schweitzer found that the cellulosic filter paper, or cloth, dissolved when he tried to filter a copper ammonia solution, and thus discovered a solvent for cellulose.

1879—Edison invented the incandescent lamp using bamboo filaments which were very brittle, difficult to handle, and unsatisfactory.

1882—Weston, an Englishman, making use of Schweitzer's copper ammonium solution dissolved cotton, and made carbon filaments for incandescent lights far superior to those made from bamboo.

1883—Sir Joseph Swan used a nitro cellulose or collodion solution to spin filaments for electric lamps. Of course the nitro cellulose fibers would have been explosively flammable, but by treatment with ammonium sulphide the cellulose was regenerated and the nitrate or flammable portion neutralized and removed. He also spun some fine fibers and fabrics made from these were exhibited in London in 1885.

1884—Chardonnet took out his first patent for making a textile yarn from collodion solution.

1891—Chardonnet's "artificial silk" plant came into production making about 100 pounds per day.

1892—Cross and Bevan discovered that cellulose (cotton, wood pulp) could also be put into solution if it were mercerized in a 17 per cent caustic soda solution, which caused the fibers to swell and in which state the cellulose reacted with carbon bisulphide to give a yellow to orange compound which was soluble in water or preferably in a dilute caustic soda solution.

1898—C. H. Stern obtained the first English patent for producing fiber by this method now known as the viscose process.

You will note therefore that in a comparatively short time three methods had been discovered for putting cellulose into solution, and spinning continuous filament fibers.

It was a most fortuitous circumstance in the development of rayon that cellulose, a universally occurring material, was used as raw material. Rayon was not, therefore, tied to any one source of cellulose. It could use cotton linters, or if the price rose too high, wood pulp. Cotton and wood pulp are the most natural sources of cellulose for rayon; cotton of itself is a high-grade alpha cellulose and usually needs but little purification, while wood pulp, although less pure, is rather easily purified.

It was also fortunate that the demand for incandescent light filaments coincided with the discovery of putting cellulose into solution. For it was the electric lamp filaments which furnished much of the wherewithall for the initial expenses of research which eventually led to rayon production. Of course the making of a textile yarn was something not as simple as the making of electric light filaments, which did not have to be strong, did not have to be as fine as the natural filaments, nor did any consideration have to be given to the matter of level dyeing. However, the experience gained in spinning the monofilaments for lamps was most valuable.

Of the early yarns made by the nitro, the copper-ammonia and the viscose processes, none were very strong, particularly when wet; but, they all had this in common—they could be dyed in brilliant shades with cotton colors. So the first market was in decorative yarns, used for making gaily colored braids, for edging, cords and tassels, for draperies and upholstery, and also for millinery purposes, where strength is not of too great importance. Philadelphia being one of the largest producers for such goods, the vicinity of Philadelphia was chosen in 1910 for building the first rayon plant in this country at Marcus Hook.

As the production of rayon increased and profits accumulated for building additional plants, more and more research could be undertaken primarily to improve the quality, particularly the strength, so as to make possible the spinning of finer filament yarns. Research requires money and it was not until the production of rayon was on a paying basis that both chemical and mechanical research was undertaken on a suitably large scale.

One of the big problems was why the rayon fiber lost so much of its strength, and got longer when it was wet out, whereas cotton fiber under the same condition grew much stronger and shorter; yet, chemically, both were essentially pure cellulose. Naturally this was a basic subject for investigation. What would, for example, an X-ray study of rayon

show? What was the molecular weight of cellulose? Would such a study show or suggest anything about the configuration or arrangement of the internal molecular structure of rayon or cotton? Would such studies lead to an improvement in rayon production; quality, etc.? Curiously enough such theoretical considerations were of great help in the development of rayon.

The X-ray study, for example, showed that the regenerated cellulose had a rather heterogeneous structure. It also showed that when the yarn was stretched under certain conditions the molecular structure seemed to give a more and more X-ray pattern effect, associated with crystalline structure. The more the yarn was stretched the clearer the pattern became.

In solution, or as first spun, these long cellulose molecules are all in a mixed up state like jack straws. Stretching the yarn under plastic conditions pulls these long molecular chains into parallel or adjacent positions to each other. A properly stretched rayon yarn is stronger because in applying tension the groups, rather than the individual structures must be broken. In other words, the unstretched yarn, with its heterogeneous arrangement of its molecules, will allow the individual structures to be broken piecemeal, whereas in the case of the stretched yarn, where whole groups are parallel and adhering closely to each other it requires a greater force to break them. Research along such rather theoretical and often seemingly fruitless and often unrelated lines has led directly to improvements in the rayon fiber. The stronger fiber made it possible to spin finer filaments and make finer yarns, and led to the making of strong fine yarn with an amazing flexing life.

Let us for a moment now consider in the light of the foregoing theory, how the idea applies to cotton—why it shrinks and gets stronger when wet out. First of all the structure of cotton fiber is most interesting. Its cross section shows daily growth rings just as trees show annual rings but with one difference. The cotton lays down a tube the size of the fully ripened fiber, and then fills the tube with cellulosic material with the concentric layers of daily growth to maturity. The rings grow toward the center whereas in the tree the growth is outward. A study of these ring layers in the cotton fiber indicated that they consist of very fine fibrils which follow a spiral path around the longitudinal axis, although the direction of the spiral may often reverse within the same ring. But one of the most interesting things about these fibrils is that they are not affected by water nor some other solvents; that is to say they do not swell in contact with moisture. They are strong and seem to be responsible for the fine strengths of the cotton fiber. They show a good pattern effect with the X-ray. Associated with these fibrils and surrounding them is another type of cellulosic material, which seems to have a heterogeneous structure and shows very little if any pattern effect with X-rays. While the fibrils are not affected by water this material takes up water and swells rather easily with the result that the unaffected fibrils are forced into greater spirility which means shrinkage. Moreover, this swollen wet cellulosic material is soft, so where a longitudinal tension or stress is applied the fibrils are easily brought into close contact and adherence to each other and so resist the strain as a group or bundle. Therefore, the tensile strength of the cotton fiber increases when wet, while at the same time shrinkage takes place.

One of the floor discussions during the fourth Spinner-Breeder Conference.

Rayon research is engaged among other things to find out more about the fibril structure of cotton and under what conditions the fibrils are formed. In other words rayon research holds cotton and its remarkable properties in such high esteem that it would like to produce a continuous filament fiber with all the properties of cotton. That might also be considered a problem for cotton research to work on.

The early rayon was of course all continuous filament bright yarn. But after a while when its novelty had worn off to some extent, the demand seemed to be for a dull yarn that would not have such garrish bright luster. This led to introducing a small amount of oil emulsions into the viscose spinning solution which during the precipitation of the filament caused the oil to separate out within the filament in minute droplets or globules of oil, resulting in a diffusion of light and a silken subdued luster. However, such semi-dullness was not enough and so titanium dioxide was used. Curiously enough, this substance has the highest index of light refraction. Therefore, less of this inert material is required than of any other substance to produce a given dullness in rayon. By its use yarns of chalky whiteness are produced. Very voluminous, but not very strong yarns have also been produced by incorporating gas bubbles inside the filaments during spinning. This is an effect or specialty yarn.

In some instances the accidental production of defective yarn has led to the regular production of special yarns. For example, in spinning the viscose solution each individual end has a small pump which delivers the regulated amount of viscose solution to the jet to give the required denier. It so happens that due to various mechanical defects due to wear, certain pulsations may be set up either in the pump or sometimes in the bearings of the revolving godet wheel which carries the yarn from the pump. The resulting yarn comes out with regular thick and thin places which is, I believe, something that can also happen in cotton spinning. Of course this is defective yarn. A customer noting this suggested he would like to have some thick and thin yarn to get a shantung effect. To make this kind of yarn seemed to be easy enough but actually it was not. With a regular repeat of thick and thin places in the yarn a regular and quite objectionable pattern is produced. To be satisfactory the thick and thin places must be irregularly spaced, so that no "windows" or open spaces are produced; they must also not all be of the same size, but vary from slight to heavy slubby places. The making of a satisfactory thick and thin yarn, therefore, became quite a problem which required a good deal of mechanical ingenuity to solve. Finally, how-

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George J. Wilds, president of Coker's Pedigreed Seed Co. at Hartsville, S. C., expressed the views of a cotton breeder.

ever, a thick and thin yarn, with unequal thick places with an irregular pattern that did not repeat for 61 times was produced which proved to be satisfactory to the trade.

Another interesting development was the making of a regular hairy or fuzzy yarn to get a sort of woolly effect. Of course defective fuzzy yarn was and is nothing new, and when accidentally it gets out with regular production it usually is again heard from as a claim. But a certain type of fuzzy yarn was wanted. This fuzzy yarn with many of its filaments broken, nevertheless, has to retain its original strength. A nice little problem! However, the result was achieved by taking a good multifilament yarn, running it on a twister and allowing the ballooning thread to strike against an abrasive surface. The adjustment was such that only the filaments on the outside of the thread were cut and the extra twist given to the yarn was just enough to maintain essentially the strength of the unabraded yarn. This development applied largely to acetate rayon, since it was drier and more subject to gathering static charges of electricity which caused the short lengths of abraded filaments to stand out in a fuzzy condition.

These simple examples will serve to illustrate some of the unexpected developments which sometimes are forced upon an "innocent" industry. But one of the big developments in rayon has of course been rayon staple. Garnetted rayon thread waste had been used for decorative effects in worsteds almost from the time rayon was first produced. But the production of rayon staple made by cutting continuous filament yarn into definite lengths, to be processed on cotton, wool and worsted machinery, goes back practically to World War I. Although some staple had been made in England prior to the war, the real development was made in Germany during and immediately following this war when, due to the Allied blockade, she was forced to use her rayon plants to make raw material for her cotton, wool and worsted industry. Curiously enough, fabrics made of rayon staple have certain characteristics quite different from those made of continuous filament rayon. They are also quite different from cotton, wool or worsted fabrics. These differences are not by any means all in favor of rayon. However, on the whole the rayon staple gave desirable results so that there has been an ever-increasing demand for it. Thus in 1928 only about 165,000 pounds were produced in the United States, whereas the projected figures for 1947 are in the neighborhood of some 240,000,000 pounds. The point about rayon staple is its versatility. It can be spun to have a filament size of one denier for fine soft fabrics and range all the way to 20 denier for use in carpets. The length of the filaments, as well as their dullness, can be varied, so that it lends itself readily to blending with the natural fibers like cotton, linen, wool, asbestos, etc. The production of strong yarns for tires has been reflected in an increased strength of rayon staple and with stronger finer filament sizes, finer yarn counts can be spun.

The research work on rayon, some of which has been outlined above, was also fruitful in other ways. Once the theory regarding straight chain molecular structures was suggested, quite a general interest developed in structural chemistry. Incidentally, this theory explained why it was that no textile fibers resulted when some of the natural resins, gums, and waxes or lacquers were drawn out into threads as suggested by Hooke and Reaumur. These natural compounds simply did not have the right molecular structure for a textile fiber. Curiously enough, some of the modern synthetic resins, on the other hand, do have the proper structure, as for example nylon, Vinyon, etc. When extruded through the fine holes of spinnerets, the resulting fibers are not strong but when stretched some 200 per cent or more the straight chain structures are oriented and strong filaments are produced which have successfully entered the field of textiles. Work is also going forward to modify the cellulose structure to produce hydrophyllic and hydrophobic fibers. Certain additions to the cellulosic molecule have already been made for the purpose of dyeing the fibers with wool dyes, both for cross dye effects as well as for blending with wool fibers. This product, known as Rayolanda, was developed by Courtaulds in England by treating rayon staple with cyanamide which introduces nitrogen into the molecule with the result that the treated fiber takes wool dyes more readily than wool. But this does not mean that the fiber takes on any other properties of wool. Wool, for example, seems to be the only truly resilient fiber of which we know. It would be fine if rayon could be made resilient, hence investigations are afoot to find out about this unique property of wool and then to see what can be done to give this property to rayon. Here again would seem to be a problem which might also be of considerable interest to cotton.

In thus very briefly sketching just a few of the things that chemical research has done for rayon, there have also been other agencies which have greatly aided rayon in its growth and development, and which might also be referred under the head of research. I refer to the broad-minded and far-sighted policy in establishing a quality control and in maintaining price stability. From the very beginning the best minds in the rayon industry felt that rayon, if it were to succeed at all, must not be developed as a cheap substitute fiber but must stand or fall on its own qualities of merit. Hence it was important, first of all, to change the name from "artificial silk" to the coined name rayon. Then in order to bring out the best qualities of rayon it was essential that standards be established. Curiously enough this was not easy. Although there were relatively only a few producers of rayon, and all were members of the now long since defunct Rayon Institute, they could not agree to setting up such standards. Whereupon, the largest producer set out to do this expensive job alone, and a quality control plan was established which, as someone has remarked, took rayon

from the "basement" and sent it on its way upstairs for the highest priced fabrics and garments in the trade.

One of the greatest problems is to get an improvement through to the consumer for his enjoyment; and a specific case is rayon linings. Tests and actual wear had shown that they would outwear any natural fiber then in use. The garment manufacturers liked the shiny, smooth fabric, but the dyers and finishers figured that a working gain was better than a working loss so the goods were stretched to such an exorbitant extent that it was nothing unsual to have a ten to 15 per cent residual shrinkage left in the goods going to the garment manufacturer. With such a shrinkage he could not risk his reputation with rayon linings and of course the ultimate consumer was distressed and disgusted that the rayon lining of his coat lifted up the bottom edge of his coat when he perspired or was caught in the rain. So the smooth, longer wearing value of rayon was being denied to the public again through chiseling in the finishing. At this point a meeting was arranged with converters, dyers, and finishers and the announcement was made that for the quality control plan not more than two inches residual shrinkage would be allowable. A very stormy session ensued but in the end the standard was gradually accepted by the trade. Today the public receives the benefit of good linings and the trade has almost forgotten that at one time there was a shrinkage problem. Where did the standard come from? There had been none. It was evolved from experience and worked out to give consumer satisfaction. The consumer does not demand standards, he wants satisfaction. The various activities, just a few of which have been cited, are examples of activities of the corporation beyond its primary function of producing rayon. It believes that rayon should not be hampered by any limitations of its real possibilities and that the public should benefit by the developments and values which rayon has to offer. It considers it part of its responsibilities to learn as much as possible about consumer requirements and to help establish consumer standards on a broad and constructive basis. In this connection it has established fellowships at various institutions, whose work is under the supervision of a special committee on which well known scientists, whose ability and integrity cannot be questioned, are serving without remuneration. The quality control plan as a licensee program has recently been given up by the corporation, as it was felt it had served the purpose for which it was originally established. But the fellowship work on consumer problems is being continued.

It would possibly be a much more difficult problem for cotton to undertake a program of this character because of the wide ramifications of cotton uses and cotton manufacture. But granting that the various types of fundamental research are undertaken, with no thought of possible immediate returns, that the fine work of the breeders will be intensified and expanded, that technical research be carried on in the widest fields of application, then the truly fine and truly remarkable properties and nature of cotton can be developed and exploited in the best meaning of the word for the best interests of the public and of great benefit to the cotton industry.

The Mill Superintendent's Interest In Quality Cotton

By L. K. FITZGERALD, Superintendent, Riverside Division, Dan River Mills, Inc., Danville, Va.

THE fields of the machinery manufacturer, the spinner, the grader, the ginner, the grower and the researcher are vitally interrelated; the interests of each must be the interests of all. The mill manager must be informed and he must evaluate, continuously, new developments and techniques in each of these fields, but withal, he must operate his plants on a practical basis. For us to discuss this manager's interest in quality cotton, we must see it as he sees it, as a practical daily problem.

There is a need for us to say what we mean by quality in cotton. We may discuss this characteristic in terms of fiber length and variation, wall thickness, cross sectional area, fiber weight and strength, elasticity, flexibility and so on. We could think of fiber spirality and of its co-efficient of friction, and from these factors, and others, we could certainly prepare an analysis of quality. But our practical mill manager will very probably repeat the old adage that if cotton spins well, it is good; if it doesn't, it is bad. Spinability, which contributes so heavily to yarn evenness and strength, is quality, to the manager. I would like to use that very simple definition for quality, spinability.

Cotton quality is a relative term, intimately associated with end product and with cost. A combed 60s yarn for dress goods will obviously require a very different cotton from a carded 10s yarn for rough industrial use. There could be no justification, from a standpoint of cost, for substituting the high type stock necessary for the 60s in the coarse industrial yarn. Nor, from a standpoint of end product, could we justify an attempt to use the shorter, lower grade stock in the fine combed yarn. But in each case, the manager has the same fundamental interest in cotton quality as it relates to his operating problems. We must assume, at the outset, that the manager will select appropriate grades and staples for his product, in order that we reduce the cotton interest of all mill managers to a common denominator.

In recent years, with increased labor costs in processing, management has necessarily attached a greater importance to the proper utilization of labor. The normal approach to better utilization is the preparing of finely detailed studies of each element that goes to make up a machine tender's task. It has been quite revealing to learn the extent to which the spinner's or weaver's or frame tender's actual work effort is affected by the running quality of the stock. Running quality results from many factors, but always high on the list is spinability, or cotton quality.

I believe it will interest you to select a machine tender's task and break it into its major *(Continued on Page 56)*

More From The Mill Superintendent

By JOHN M. CAUGHMAN, General Superintendent, Spartan Mills, Spartanburg, S. C.

THE mill superintendent's interest in cotton must always be in relation to the product his plant is manufacturing. By no means do all textile products need quality cotton, nor is it necessary that all textiles be made from it. Today's cotton mill managers' and superintendents' interest is in all the phases of cotton—economic, breeding, harvesting and ginning as well as the technical phases of manufacturing.

I think it is admitted generally that the American bale of cotton is the poorest, most wasteful, most cumbersome, dirtiest and worst looking package in the world. First, let's discuss the covering—jute covered vs. cotton covered bale.

The cotton covered bale will have less ends down during processing as compared with the more popular jute covered bale. I think Clemson College and others have proven this fact in tests run some years ago. Also, the use of cotton covering for bales of cotton would create in itself quite a market for low-grade cotton. It has been estimated that this use would require from 100,000 to 150,000 bales per year. Also, a saving in shipping to be somewhere around $1,000,000 per year. However, from the point of the manufacturer the most important factor is the elimination of the presence of the jute fibers in cotton.

It would be of benefit to mills and growers, as well as to those who handle cotton, if the bale was graded and classed and certified as it leaves the gin. Also, the grade and staple, as well as variety could be marked on the wrapping of the bale or the tag. Don't we state on a cut of meat the grade? Seems to me that I have heard of Swift's Premium AA. When we buy peaches, isn't the basket marked according to grade and also the variety? Isn't the same true in citrus fruits? Certainly milk is labeled as to grade, and so on down or up the list. If this practice was put into vogue, it seems to me that much stapling and grading would be eliminated and mills could then have some assurance of what to expect in the bale. If necessary, license the ginners the same as a druggist, so that he could certify grade and staple. So you see the bale itself represents the first concern of the mill manager or superintendent.

I guess the next principle concern of interest that the mill manager or superintendent has in the cotton run, is the cost per pound. Twenty-five or 30 years ago few mill superintendents and practically no overseers had any cost figures given them. Maybe they had the direct labor cost, but never the total cost. Today that condition has changed in most cases. The mill superintendents of today certainly want the operating costs by departments, the waste figures involved, also by departments. They realize the final cost, is the total cost including the cost of cotton. Certainly today's cost of cotton is no small percentage of the total cost of the end product. In fact any change in cost of either labor or cotton is immediately reflected in the price of the finished cotton article in spite of the pleas of the President to keep consumer prices down.

Today's cotton mill managers and superintendents, in spite of the fact that most likely they do not purchase the cotton, are keenly aware of the fact that the difference of one-half cent per pound in the cost of cotton reflects just as much change in the total cost of the manufactured product as effectively as the same reduction in labor cost, power cost, or supply cost. This reduction in cost can be accomplished with less trouble, expenditure and risk, provided of course, that he maintains the same requirements and specifications of the yarn or fabric, and the mill operates just as efficiently. Let's express this in a little different manner.

Suppose a plant uses 400,000 pounds of cotton per week and that cotton is costing 37 cents, but by making certain changes and adjustments he can get the same results with a cotton that sells for 36½ cents. Now multiply 400,000 pounds by one-half cent, which amounts to $2,000 per week. Now take the average wage or the highest. Multiply that rate by 40 hours and divide into $2,000. I have chosen to take a $1 rate. $1 × 40 = $40 divided into $2,000 equals 50 people. Ask any plant manager how much in dollars of labor savings equipment, if he could get it, he would have to buy to eliminate 50 people, or increase production equal to 50 people. Also, keep in mind the expenditure outlay on machinery would be a capital investment with consequent tax increases. In fact we have stayed so conscious of per pound cost of cotton that mills have failed to tell breeders and growers what they expected or wanted in a bale of cotton.

Of course, such procedure can be carried too far. Too far to the extent that increased waste, lower pounds per spindle hour, due to additional twist, or smaller number of machines per operator due to worse running condition would more than offset the cost saved in cotton. There is always a proper compromise to make. Therefore, the necessity of the mill manager or superintendent and cotton buyer all working together, and knowing ahead of time what to expect from certain cotton and the requirements of the goods being made, is of utmost importance.

This brings us face to face with the next concern of the mill operator, and that is the spinning qualities of the cotton to be run. As we said before the cotton manufacturer has not studied cottons with the idea of predetermining performance in the mill, and consequently letting the cotton breeder and grower know this requirement. This phase of study has been neglected too long. There has been too much eye and finger work, and most anyone has spots before his eyes on certain mornings, and as you well know, the spots can also be called tinges.

At one time, manufacturers thought only in terms of length of staple. Length of staple is no guarantee of good spinning qualities. Neither does length mean increased break every time. In fact tests have been run that show that area in which cotton is grown and variety of cotton as well as grade may have more to do with break than staple length. Perhaps all of us have heard of the spinning qualities of cotton. To you, Mr. *(Continued on Page 58)*

Fiber Analysis In Cotton Selection

By Ernest Carpenter, Cotton Buyer, Greenwood (S. C.) Cotton Mill

WITH your permission I intend to discuss in an informal fashion the use we are making of fiber analysis in buying and consuming our cotton. My use of fiber analysis is divided into two general headings; first, problems relating to the spinning value of cottons; and secondly, problems relating to the classification of cotton.

Under the first division we are using fiber analysis to determine the relative spinning value of each crop as it comes on the market. The importance of this knowledge, or rather the urgency of this knowledge depends a great deal upon your buying methods. If your buying method permits you to purchase the new crop and spin a small amount of it quickly before committing yourself to a long term contract or before buying in volume, the fiber analysis is not so urgent. However, in my case, we have often been forced to make rather large purchases before we could find out just what was the spinning value of the new crop.

With the use of fiber analysis we have a very quick and in my opinion a very accurate means of predicting just how the new cotton will perform in the mill. We are also using this fiber data to determine how to mix our cottons properly. We find a variation in the spinning quality of cotton from different sections of the belt. Sometimes we achieve a standard by mixing the good, the average, and the fair cottons together. For certain purposes it is sometimes desirable to segregate certain cottons.

I would like to make this point about the variation in the quality of cotton from different crop years. You say, "Why, yes—everybody knows that this is true." But I say it is a lot better to know why—exactly why, the cotton is better or worse. This can be accomplished easily by the use of fiber data, but without such information the reasons why are always matters of opinion and not fact. At best we see through a glass darkly in regard to cotton quality but fiber data certainly throws a tremendous amount of light on the subject.

I think the textile business has generally been guilty of sticking to preconceived ideas about the use of certain qualities in certain warps and/or fabrics. We are trying to acquaint our production bosses with fiber data and we are trying to get them and also the management to think of cotton in terms of fiber data. In other words we are trying to get them to think of cotton as say—middling in grade with a staple length of 1.04 inches (upper half mean) and a uniformity ratio of 78 per cent. We find that ordinary descriptive terms of grade and staple are entirely inadequate in regard to some of our cottons.

While to my knowledge there is only one cotton shipper today who will offer you cotton of a guaranteed fiber strength, staple length, uniformity ratio, fineness and maturity, I believe that in a few years that all the best shippers will be willing and able to sell cotton on this basis. I am sure this modern and intelligent method of merchandizing will pay big dividends particularly to those who have the courage and the pioneering spirit to venture into it.

I will not try to say a great deal about how a concern can go about securing quality cotton. I will say generally that first this quality cotton must be produced in sufficient quantity to permit mills to select the requirements properly. The efforts of the seed breeders to produce this cotton and have it planted in greater and greater quantity deserve high praise. The efforts of the seed certification programs to have this cotton identified and to have it retain its identity are both practicable and commendable. Fiber analysis offers a positive method of determining quality cotton. The next step is for the purchaser to seek this cotton and to show his preference for it by demanding it from dependable sources of supply and paying for it. I mean by that that when cottons are bought more and more on actual spinning quality; then good cotton will bring a good price and poorer cottons will have to seek a price level that will reflect their value.

I want to make just a few remarks now about fiber data in relation to the classing of cotton. In order to achieve the best results from this fiber analysis of cotton quality, the fiber data must be correlated to the classing of the cotton. My first interest in this respect is in the determination of staple length. An associate and myself spent a great deal of time working at this problem about two years ago. I think the information we gained has been invaluable to us. I think that any classer that will make use of the Fibrograph measurements in checking and establishing his staple length standards will come to the same conclusion. I believe that use of this data will give any person a far better concept of staple length and if he will accept the fiber data and believe in it and make use of it; that he will gain immense confidence in his ability to staple cotton properly.

In regard to fiber strength I have this advice to offer any classer who pursues the subject by way of the Pressley method. Prepare to turn loose some of your old concepts of "character" and "break." I would say that if you are incapable of learning something new or if you are the kind that refuses to give up old ideas—you had better leave the Pressley method alone. However, lest I be misunderstood, I want to say that I regard this fiber strength information as the best single appraisal of cotton quality. I could stir up a lot of controversary among you cotton classers on this subject of "character" and "break" but I will only say this. That if you are open minded you will find through fiber analysis that the accepted classers' determinations of fiber strength and character are entirely inadequate.

I want to mention two subjects not related to fiber analysis before I yield the floor. Both are old subjects but but both subjects need our attention and improvement. A young member of the group commonly called management said to me recently, "You cotton fellows ought to be ashamed of the cotton package. Rayon is coming to us in a dozen different sort of packages and all of them are generally better than the cotton package. We are wasting too much cotton because of the way it is inadequately wrapped." The other subject is the way bales are treated after ginning and before warehousing. All buyers of Eastern growth cotton know that we continue to buy cotton that has been rolled around on the ground and exposed to the weather;

this practice of handling cotton will improve when the mills demand better handling. In spite of the time that has been spent on these subjects we still ought to do something about it.

In conclusion let me say this—I don't care how good a job of classing cotton you are doing—you can make a great improvement in the job if you will use fiber analysis methods. I don't care how economically you are processing your cotton—you could save more money by evaluating your cottons for processing by fiber analysis methods.

Selecting Quality Cotton For The Mill

By T. D. TRULUCK, Cotton Buyer, Deering, Milliken & Co., Inc., Union, S. C.

EVEN during the recent unprecedented demand for textile products of all descriptions, we have seen synthetic and other natural fibers as well as paper encroach upon the realms formerly held exclusively or dominantly by cotton. Directly or indirectly, we in the South are more or less dependent upon the prosperity of cotton. Therefore, we must work diligently and speedily if cotton is to maintain its historical importance, and if we are to maintain our Southern economy in a healthy condition.

The demand for cotton products is going to be determined by three factors: first, utility or the suitability of the product for the purpose for which it is intended; secondly, when applicable, the styling; and thirdly, the price. The importance of each will vary according to the product, and styling will not apply to many products made for industrial uses. Utility, styling and price cannot be controlled by the actions of any one group alone, but is the result of diligent and whole-hearted co-operation between the breeder, the planter, the county agents, the agricultural schools, the fertilizer manufacturers, the ginners, the cotton merchants, the mills, the converters, the cutters, and the retailers.

As a manufacturer, I am not qualified to speak on seed breeding, on fertilization, cultivation, harvesting, ginning or on converting, cutting and retailing. We do offer to co-operate fully with each interested group to advance the program in its entirety. The day of ritualistic manufacturing is fast disappearing. On consumer products, like industrial products, a definite quality level is determined for each article manufactured. These quality levels must be attained at an over-all cost that will assure mass production and mass distribution.

We know from the Department of Agriculture tests, from tests in our own laboratory, and from actual manufacturing experience that cotton is a highly variable material. Variables in cotton quality which cause variables in cotton products are explained by variations as to fiber strength, fiber length variation, fineness, wall thickness, grade, gin preparation, and other factors. In precision manufacturing, these variables must be known and controlled, within reasonable tolerances, to be assured of uniform quality in the product, and in order to produce the product at an economic cost.

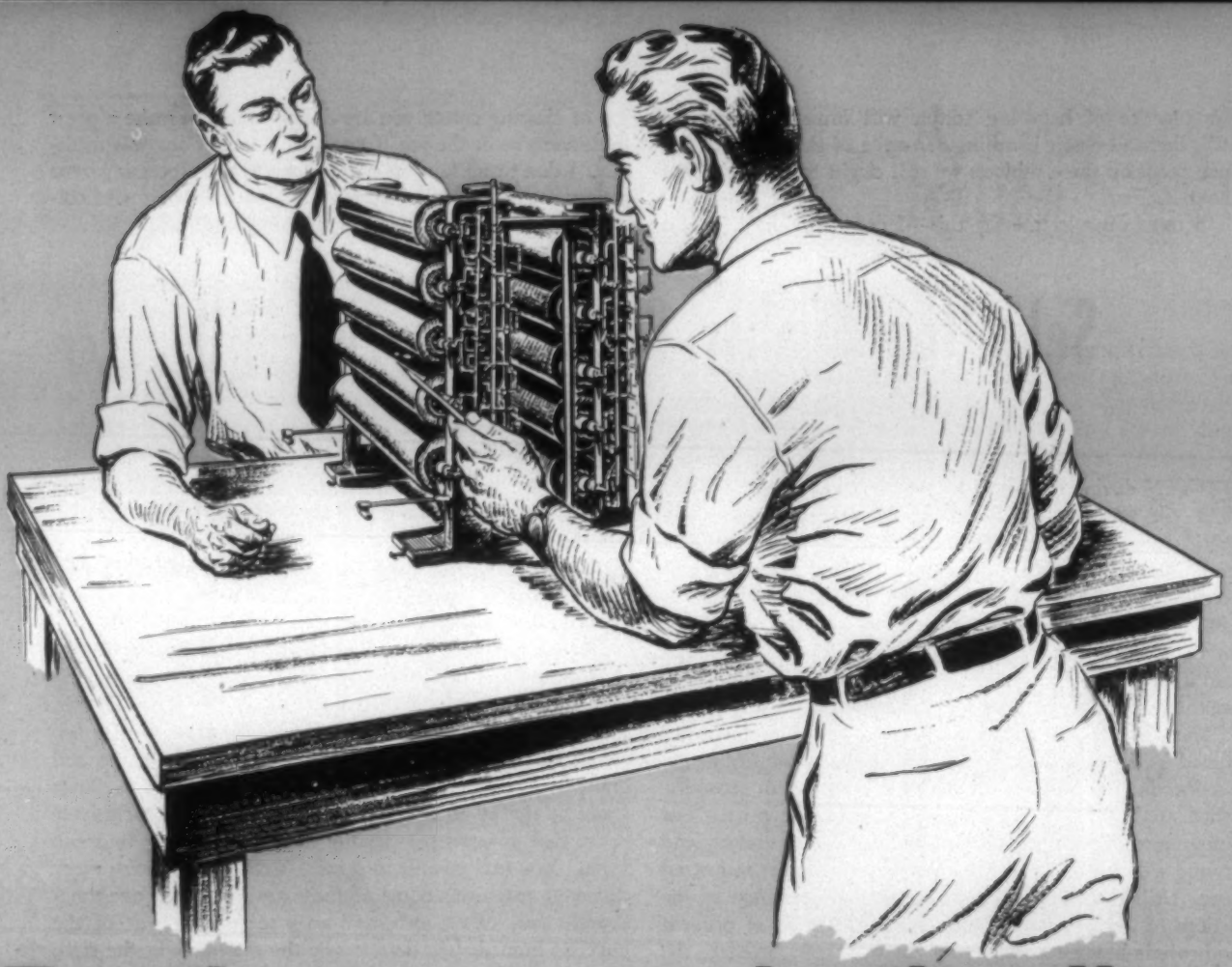
Staple length and grade can be determined on a commercial scale, within reasonable tolerances, by skilled classers. The other cotton characteristics, such as fineness, wall thickness, uniformity and fiber strength, can be determined with reasonable accuracy only by laboratory examination. This process is much too slow for commercial cotton selection. Better tools for cotton merchandising are needed. A study of these cotton characteristics convinces us that they are determined by variety, growth and quality of the seed. Therefore, in selecting cotton on a commercial scale for manufacturing to specification with low tolerances, it is quite necessary that cotton marketing be done on the basis of variety, growth, year of production, and quality of the seed, as well as staple and grade.

Variety, growth, year of production, and quality of the seed should be a permanent marking on the bale, originating with the producer and carrying through the manufacturer. As we are firmly in favor of lint identification, we are uncompromisingly opposed to classification as to staple and grade by ginners or any source; other than the buyer. Tests made by the U. S. Department of Agriculture conclusively prove that government classing has no relation to spinning value. You may be able to deceive a classer, but you cannot deceive a machine. Some of these are set to one one-thousandths part of an inch, and an error on the part of the buyer is immediately detected by the machines in the mill. Therefore, the man who must assume responsibility for cotton selection must have full freedom in that selection.

A good start is being made by the one-variety areas. Encouragement should be given for continuity and expansion. Recognizing the importance and value of the different varieties recently developed, each having separate and different characteristics, we cannot overly emphasize the need for labeling or naming these varieties for identification purposes. Some method of permanent and positive identification from producer to manufacturer must be developed and adopted. It is for this reason that we have been highly interested in the lint certification program now being developed in the state of Mississippi. Different varieties or strains process differently, and to control the quality of our finished product and to produce it at prices that consumers will pay, we must have certification.

The cotton quality characteristics desired by mills will vary according to the product being manufactured. All want low waste content and reasonable prices, but quality with many is of controlling importance. We, individually, are not insistent upon extreme fiber strength, so long as there is ample strength to assure standard machine speeds with high machine and labor efficiencies. Our material must process well, with uniform drafting. We would prefer cottons with inherently higher coefficients of friction to attain yarn strength without increasing density. Density reduces cloth appearance and suppleness and is generally attained by high twists. High twists reduce machine productions. With high labor rates, standard machine speeds with high machine and labor efficiencies are imperative.

If the price of the finished product is to be reasonable, the price of the raw material *(Continued on Page 59)*



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THE CURIOUS MR. CLUETT

Pictured at left is the subject of this article, Sanford Lockwood Cluett, and the title refers to his inquisitiveness rather than peculiarity. An inventor and adventurer, his curiosity has led to an amazing variety of accomplishments, including revolutionizing of the textile industry. Sanforizing of cottons is now followed by the Sanforset process for rayons. Needless to say, Mr. Cluett's alma mater, Rensselaer Polytechnic Institute, is proud of him; this article is based on a story by Floyd Tifft in the R. P. I. Alumni News.

WHEN Sanford Lockwood Cluett was a student at the Troy (N. Y.) Academy, the subject of the peristalic action of the esophagus was under discussion in class one day. The instructor was explaining how the successive muscular contractions of the esophagus forced food or liquid onward to the stomach. The curious young Cluett asked if this contrivance of nature would work if a person stood on his head. The instructor wasn't sure, but he would guess yes.

That answer was not enough for the youth. So the first thing he did after getting home that afternoon was to stand on his head and attempt to swallow water out of a glass. Water ran into his nose, causing coughing and sneezing which prevented swallowing. After repeated attempts, Cluett got round the difficulty by putting a handkerchief over his nostrils.

"After I swallowed, the peristalic action of the esophagus forced the water up," he says, "and I could hear the 'clunk, clunk' of the valve at the end of the esophagus as it trapped the water up there in the stomach. I had my answer."

Discovering for himself answers to questions that he couldn't seem to find otherwise has been a life-long habit of far-reaching effects. His engineering and scientific achievements as a director and vice-president of Cluett, Peabody & Co., Inc., have revolutionized the textile trade and are said to have been as important to the textile industry as were the achievements of Steinmetz to the electrical industry. In addition, his intense interest in people and things has resulted in a variety of accomplishments in other fields so far exceeding those of the average person that they are almost unbelievable as being possible of attainment in one lifetime. To mention some of them here and now:

He became so proficient at dancing that he was once persuaded to join the Imperial Ballet of Russia by Max Rabinoff, the impresario who brought that organization to this country. His expertness in navigation, studied from boyhood, and his knowledge of the world's harbors studied on many business trips abroad, led a Norwegian sea captain to say that Mr. Cluett was the only other man he would permit to take his ship out of New York harbor, navigate it across the Atlantic, and dock it on the other side. Ship officers everywhere have accepted him as a colleague. Even when crossing on the largest ocean liners, Cluett has generally been guest navigator on the bridge, standing watch and working out the course with the ship's officers. He has designed yachts and sails. He has produced drawings, and landscapes and seascapes in oils and watercolors, and modeling and sculpturing, all of an excellence surpassing that of the amateur enough to make good judges of such things tell him he should have made art his career. He knows several languages well enough not to require an interpreter to understand or to be understood. He is an authority on small ammunition and small arms; an expert woodsman, hunter, and fisher; and, in his younger years was an acrobat, and a bare-back rider who could swing up behind a rider on a running horse and perform equestrian feats of the professional circus type.

Even as a student in engineering at Rensselaer Polytechnic Institute, where he was graduated with honors in 1898, he made original investigations in exterior ballistics, devised the first approximately correct formula for train resistance, invented an improved method of solving higher equations, invented and constructed an improved chronograph for recording intervals of time to within one-fifty thousandth of a second, and spent a summer vacation in an unexplored area of Canada.

Mr. Cluett, who says these things happened largely because his curiosity and interest led him into them, thinks it's a pity that so many people are interested in so little.

"You can't do anything that you can't imagine first, and curiosity cultivates imagination," he says. "I think these two qualities, which can be acquired and increased, contribute most toward achieving a successful life. By a successful life, I mean a useful and satisfying life, not how much power or wealth you attain. If more people would get curious and open their eyes and ears and their minds, they would be much happier and, incidentally, more successful in a material sense.

"It should, by the way, be a two-way curiosity. It's very important always to be curious about yourself, too. I suc-

ceeded in doing some of these things we've been talking about not only because of my curiosity about them but also because of my curiosity as to whether I myself could do them. Get the point?

"I've put in a good many days that began at from five to seven o'clock in the morning and ended at ten or 11 at night, at what most people would call work; but it has been of fun, not work, to me because of this two-way curiosity."

When Cluett tested the peristalic action of the esophagus that day, the trick of standing on his head in itself was not difficult because he was already well practiced in it. He had been standing on his head since the time in his childhood when he first heard of such a performance and had been immediately curious as to whether he could do it. He has stood on his head a great deal all during his life, because he thinks it's good for one. But better still, he thinks, for posture, co-ordination, and stimulation of health in general, is walking on one's hands. Walking on his hands has been his favorite morning setting-up exercise. Now 72 years of age, he gave it up only last year, partly on the advice of his doctors and partly "because I've reached an age where I'm afraid I'd look foolish in doing it in public any more."

Walking on his hands "in public" has been one of his favorite pranks, particularly at heavy affairs attended by stuffed shirts and personages of stiff formality and dignity, whom he likes to shock. At such affairs, at home and abroad, he has occasionally and quite abruptly succumbed to the temptation. Rising from his chair at a long dinner or banquet table, putting his hands on the table and throwing his body upwards into a "soft curl," he has walked on his hands the table's length both ways, without tipping over a champagne goblet, upsetting the flowers, or "stepping" into anyone's food, while mouths gaped, eyes bulged, and whispered conversation ensued as to his sanity.

Though out of practice for the last year or so, he recently proved that he could still do very well at walking on his hands, and in no less a conspicuous setting than Grand Central Station in New York City. Having entered from the Vanderbilt Avenue side, with little time to spare to make his train, he was hurrying down the marble stairs. A red cap, carrying his luggage, was just ahead. In his rush and with his view somewhat obstructed by the luggage, Mr. Cluett missed the last step and was suddenly plunging into a nose dive.

"Quick as a flash, from old habit and without thinking on my part," he says, "my hands went down, I reared up in the old soft curl, and started walking on my hands, still propelled by the momentum of the fall. Then, since I was up in position anyway, I thought I might just as well take a few more steps than necessary, and so I did. Then I came down, stood up, brushed off my hands, straightened my clothing, and stole a look around from under my brows. Dozens of people were staring at me, and the red cap had dropped my luggage and stood there, shaking. 'You're sure lucky you knew dat trick, suh,' he said, as we started for the train gate."

Cluett was somewhat frail as a youngster, but now at 72, he is still in the harness as a Cluett Peabody executive, and only last summer served as navigator on a 15-day cruise—a duty that kept him up much of the nights and that reduced his waist to 32 inches. (He regards the reduction as the cruise's most beneficial result.) His childhood formal schooling was considerably interrupted and delayed. He didn't go to school at all from 14 to 18 years of age. Entering Troy Academy at 18, he was able to graduate there in two years, and was ready for Rensselaer Polytechnic Institute in 1894 at the age of 20.

In his case, however, the long absences from school did not prove handicaps—in fact, quite the reverse. He still has in his office the textbooks he used at R.P.I., and some of them show little evidence of use—few finger prints, smudges or marginal notes. He didn't have to use them much, for he already possessed a good grounding in what those pertaining to mathematics, surveying, drawing, and general science contained. However, some subjects came hard—chemistry and French, which was then the universal language in the world of engineering.

He early confessed to his mother that he was thoroughly frightened concerning his ability to learn a foreign language because he couldn't get "his fingers on it and do something with it." But his instructor showed him a way—by expressing to himself in French things he did, as he did them. For example, "I rise from my chair, I walk across the floor, I take hold of the door knob, I turn it, I pull open the door," etc. From then on, Cluett associated French words with his actions. In those days, Rensselaer students were not informed of their marks beyond "P" for passing and "F" for failure. Cluett knew, of course, that he was passing, but not how well. It was not until 1919 when he was elected a trustee of Rensselaer and thus as an official permitted to look at his numerical record, that he discovered that he had constantly rated at the top in French. The same was true of chemistry.

In addition to his required curricular studies, Cluett found time to do an amazing number of things during his student years—the original investigations and inventions heretofore mentioned, the construction of a catamaran (a kind of twin-hulled boat, with a platform extending from one hull to the other on which a tent could be erected), the designing of other boats, landscapes and seascapes in oils and water colors, and sculpturing and modeling. He has been called the most versatile man in the textile industry.

Three of his uncles—George B., John William Alfred, and Robert—founded and developed the world's largest collar manufacturing enterprise.

Mr. Cluett didn't join Cluett, Peabody & Co., Inc., until 1919, when he was 45 years old. His cousin, Alfred, then president of the concern, called him up at Walter A. Wood one day and asked if he didn't think it was about time. He said there were lots of things to be done which he thought would be fun for Sanford. Sanford was successful at the "fun." Two years later he was elected a director of the company and eight years later became vice-president, two positions he still fills at 72.

In the meantime he invented numerous improvements to shirt and collar manufacturing machinery—he has more than 200 patents in the textile field—and is best known, of course, as the inventor of the Sanforizing process, which is named after him.

Everybody knows what Sanforized means—that if a garment has a Sanforized label on it, it won't shrink after washing—but doubtless most persons, outside the textile industry, are not aware that the process revolutionized the textile trade. The world's largest buyer of work clothing has characterized it as the greatest invention in textile history. Sanforized fabrics and fast dyes are generally linked as the two greatest boons in the history of the trade.

Sanforized fabrics are now so widely used that licensees

pay Cluett some millions of dollars a year in royalties. There are 50 licensees in 19 foreign countries, the latest in India. Great Britain is the largest foreign user of the process, with 12 licensees. Nearly 100 large textile concerns are licensees in the United States.

Sanforized fabrics are not only preshrunk, they are stronger, more resistant to wear, and improved in finish and appearance. The invention has opened new uses for fabrics that couldn't even be considered before. It was the thing the trade needed most.

An average of 2,000,000,000 yards of Sanforized fabrics is now being sold each year. In fact, loose figuring, 2,000,000,000 yards would reach from the earth to the moon and back twice, with enough over to go around the earth several times. There are hundreds of the machines that Mr. Cluett invented in use, the largest and most modern costing about $40,000 each.

Cluett began working on fabric shrinking back in the 1920s when he recognized that no shrinking process then existing could be depended upon to mean anything at all. Since the textile industry was an old one, this was a situation difficult to believe, and Cluett's curiosity got to working. Why hadn't some remedy been provided, what caused shrinking, could it be prevented, and could he be the one to prevent it?

As he describes his early approach: "I asked myself what makes fabrics shrink? The answer was that in the weaving and finishing of fabrics they were continuously being pulled and stretched and that they simply relaxed back to a more normal position after being laundered. I asked myself, what's the opposite of pull? Push, of course. The solution would be in pushing the finished fabrics together before laundering so they wouldn't shrink any more.

"I took a strip of fabric, laid it on my desk, and tried to push it together, but naturally it buckled. I'd have to find a way to push and hold both sides at the same time so it wouldn't buckle. I fashioned myself an arch-shaped piece of thick wood and stood it up in the desk. I measured off a strip of fabric, dampened it a little and laid it over the upright half-circular wooden thing I'd made. Then I took a rubber band as wide as the strip of fabric, stretched it, laid it, stretched, upon the fabric, and held it down tight. At the same time I let the band shrink back somewhat, but holding it snug to the fabric. Then I picked the band off, and I had shrunk the fabric."

That, in words as nearly as the writer can quote Mr. Cluett, was the way the principle of Sanforizing was born.

By 1930 it was apparent that the impact of Sanforizing would be world-wide. The textile world recognized that manufacturers who were without its advantages would be at a rather hopeless disadvantage. It was a case either of paying royalties on the Cluett patents or of having this necesesity legally set aside. A long period of litigation ensued—in Canada, England, Germany, and other countries—but in every case the claims of the Cluett patents were upheld. It would seem now that the litigation should have been recognized as futile from the start and that the chief claim—that of the existence of a prior art—would not stand up under the keen appraisals of Mr. Cluett.

The litigation brought about a resumption of his travels abroad. Frequently he was in the United States only a week at a time. In Germany the case dragged on for five years, the German textile interests having pooled their resources in the fight. At last, Mr. Cluett asked if he might appear before the commission alone and explain and demonstrate his invention without interruption in his own way and without legal aid. The commission agreed on those grounds, but added that when he was through the members would leave the room without comment, reserving decision. But when he was through, the chairman asked him to wait while the commission considered. A few minutes later, the chairman announced: "Mr. Cluett, your patents stand and will always stand in Germany."

The constant travel and the strain of making technical investigations and of preparing answers to claims set up by the opposition during the long period of litigation in various countries, exhausted him, and his doctors kept him in his home for months. That was several years ago. He's glad that apparently the turmoil is over, and that he has time again to try to find answers to some of the many questions still on his mind.

"I'm still an awful curious guy," he says.

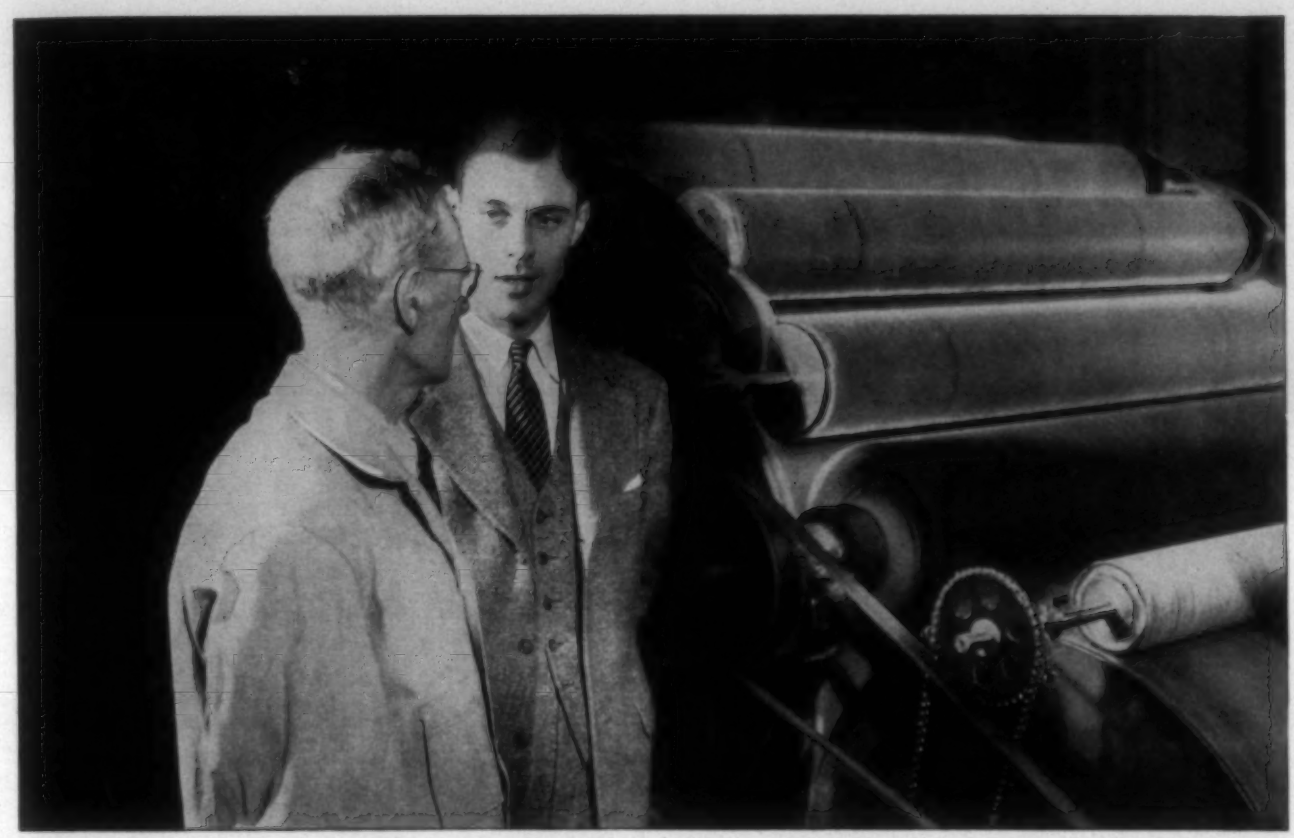
A. A. T. C. C. Annual Convention Set Oct. 23-25

The Congress Hotel, Chicago, Ill., will be the scene Oct. 23-25 for the annual convention of the American Association of Textile Chemists and Colorists, to be held under the auspices of the Midwest Section of the group. Wool shrinkage control, vat dyeing and web fabrics are among the important subjects which will be discussed during the three-day event.

The second day of the convention will be given over largely to general group discussions, as follows: 9:30 a. m. to 12 noon, General Technical Session, Miles A. Dahlen, presiding; 2 p. m. to 5 p. m., Cellulosic Fibers Group Meeting, George E. Osha, Munsingwear, Inc., Minneapolis, Minn., chairman; 2 p. m. to 5 p. m., Non-Cellulosic Fibers, Robert C. Anderson of Cleveland Worsted Mills, Cleveland, Ohio, chairman; 2 p. m. to 5 p. m., Finishing and Auxiliaries Group Meeting, Clarence W. Wille of Burson Knitting Co., Rockford, Ill., chairman; 2 p. m. to 5 p. m., Fundamental Research Group Meeting, Leonard Armstrong, Armour & Co., Chicago, Ill., chairman; 2 p. m. to 5 p. m., Hosiery Group Meeting, Edward J. Siegrist, Holeproof Hosiery Co., Milwaukee, Wis., chairman; 2 p. m. to 5 p. m., Test Group Meeting, Miss Laura E. Pratt of Sears, Roebuck & Co., Chicago, chairman; 8 p. m. to 9:15 p. m., General Research Meeting, J. Robert Bonnar, chairman, executive committee on research, presiding.

A feature of the closing day of the event will be the intersectional prize paper contest, from 9:30 a. m. to 12:30 p. m., with Patrick J. Kennedy, national chairman, presiding. The event will be concluded the evening of Oct. 25 with the annual banquet at which Roger Adams, head of the chemistry department at the University of Illinois, will be the guest speaker. Councillors of the A. A. T. C. C., sitting as a nominating committee, recently renominated Henry F. Herrmann of General Dyestuff Corp. as president for the coming year. Also renominated were the vice-presidents, John N. Dalton of Pacific Mills and C. Norris Rabold of Union Bleachery. The committee did not nominate alternates.

The Piedmont and Southeastern units of the A. A. T. C. C. have meetings scheduled in the near future and the South Central group recently held its fall meeting and outing. The Piedmont Section will meet Oct. 4 in Charlotte, N. C., with Dr. Harold W. Stiegler, director of research of



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the national association, conducting the technical session. Dr. Stiegler will review research work being accomplished and will enlighten the group as to how it might better conduct its individual research program. New officers for the Piedmont group will be elected during the meeting. The Southeastern Section will meet Dec. 6 in Atlanta, Ga. Speaker of the evening at this meeting will be Thomas R. Smith, manager of the yarn dyeing department at Wiscassett Mills Co., Albemarle, N. C., whose subject will be "A Review of the Textile Reports of German Technical Developments." Mr. Smith was a member of the textile finishing team which went to Germany in 1945 for the Quartermaster General. Approximately 250 were in attendance Sept. 5-6 when the South Central Section held its outing at Lookout Mountain Hotel, near Chattanooga, Tenn. Golf, bridge, dancing and games were enjoyed and the event was concluded with a banquet at which C. A. Noone, Chattanooga attorney, and Dr. Harold W. Stiegler were the principal speakers.

Alkaline Wool-Shrinkage Process Offered

A new wool shrinkage control process operating on the alkaline side has been developed by Alrose Chemical Co., it was announced recently by Leonard Shapiro, the firm's textile research director. This process will supplement the acid Protonized method heretofore offered by this company and will be offered under the same name. Numerous advantages are claimed for this system of preventing wool shrinkage, among them being low cost, soft hand, strength and abrasion resistance and level dyeing. Both alkaline and acid systems may be applied at any convenient stage of processing, it is declared, but usually before dyeing. Wool may be treated in the form of top, yarn, or knitted or woven piece goods.

In dyeing, formulations are said to be about the same as for un-Protonized wool, with no special precautions necessary. However, it is warned that treated and untreated wool should not be dyed in the same bath, since differences in dyeing rates will result in radically different shades. The process can be applied after dyeing, provided the dyes used will withstand chlorine.

While this treatment controls felting shrinkage, the finisher must see that the goods are finished to stabilize dimensions for complete shrinkage control, it is pointed out. Any stretch imparted during drying or boarding sets up strains which will subsequently result in relaxation shrinkage.

It is recommended by the company that woven Protonized fabrics be dried on an overfeed tenter to dimensions indicated by a preliminary wash test.

Commercial runs recently treating worsted yarn on packages are believed to be the first such commercial application of a shrinkage control process carried out successfully.

The following typical procedure for application of the alkaline process on 18 singles worsted yarn in a Franklin Process package dyeing machine is noted by Mr. Shapiro (three per cent chlorine found satisfactory):

Weight of wool: 100 lbs.

Volume of liquor: 100 gals.

Liquor ratio: 8.3:1.

Active chlorine required: 3 lbs. (8 equals 24 lbs. of 12½ per cent sodium hypochlorite).

The wool is first scoured with soap or synthetic detergents (strongly alkaline builders should not be used), then rinsed carefully in warm water and then in cold water to remove all traces of soap.

Two ounces of Nonisol (non-ionic wetting agent) is added to a fresh bath. Fifteen pounds of Alrochlor pretreating agent are dissolved in water in a stainless steel container and added. The machine is run 30 minutes, adding ice if necessary to keep the temperature 70 to 80° F. The bath is dropped and the batch is given two five-minute rinses with cold water. Six to seven pounds of sodium bicarbonate is dissolved in water and added. After tests indicate that the pH of the liquor is seven to eight, the bath is dropped and the batch is rinsed once more.

Nonisol wetting agent is added, and enough ice to keep the temperature between 60 and 75° F. After running about three minutes, the hypochlorite solution (diluted to several times its volume) is added in small portions over a ten-minute period. The machine is run 20 minutes more, making a total of 30 to 35 minutes. (A test with starch-iodide paper at this point shows no color and only a faint straw color appears with potassium iodide reagent.) The batch is rinsed with cold water.

The machine is filled with water and five pounds of sodium bisulfite (dissolved in water) is added. Four pounds of sulfuric acid is poured into water and added to the batch. The machine is run ten minutes at 80 to 90° F., and the bath is dropped.

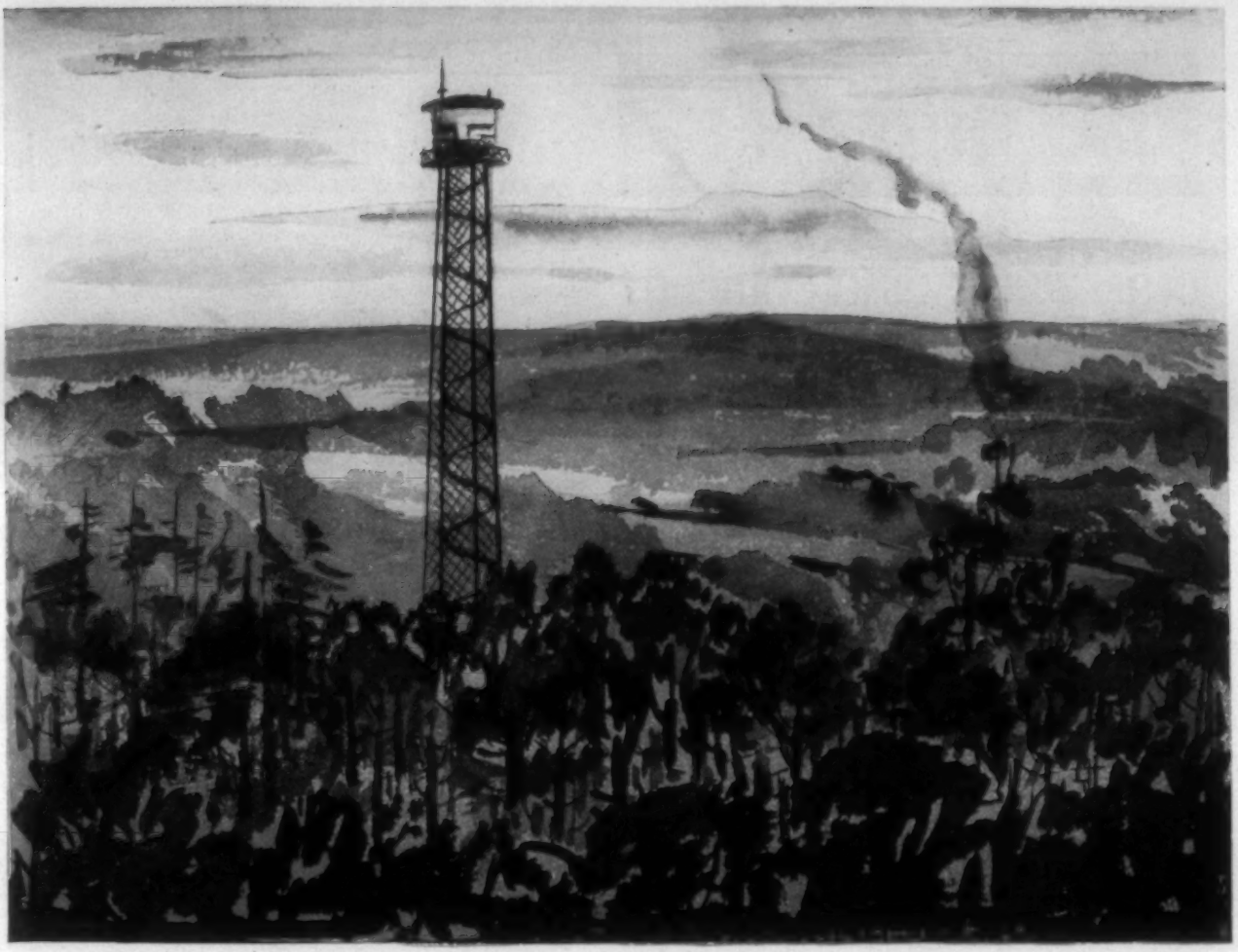
The batch is rinsed, neutralized with five pounds of bicarbonate and rinsed again. If the goods are to be dried before dyeing, it is advisable to acidify at this point with a little acetic acid. The wool has a light tan color at this point, and may usually be dyed without bleaching. For whites or light shades, the wool is bleached about two hours with one-volume hydrogen peroxide at 140° F.

Seek Better Consistency In Lightfast Tests

Active work on the improvement of equipment and techniques for determining the lightfastness of dyed and printed textiles is being carried out by the committee on fastness to light of the American Association of Textile Chemists and Colorists. W. A. Holst of National Aniline Division, Allied Chemical & Dye Corp., and chairman of the A. A. T. C. C. committee, reported recently that a definite mechanical improvement in the Fade-Ometer for better consistency within individual machines will soon be available, and that the group has finally reached agreement with the Bureau of Standards on the fading rate of the calibration paper. It is anticipated that the new standard exposures for calibration papers A and E will soon be ready for distribution by the committee for final trial by industry, which it is hoped will eventually lead to their adoption as a standard calibration method for Fade-Ometers, thus eliminating to a practical degree the disturbing discrepancies in fading speed which are evident in existing Fade-Ometers.

The story of the work accomplished by the United States Testing Co., Inc., of Hoboken, N. J., is told in the Sept. 6 issue of the *Saturday Evening Post*. Title of the story is "House of a Thousand Tortures," and the author is Don Wharton.

Calico, a plain woven printed cotton cloth, is named after Calicut, India, where it was made originally and hand-printed with wooden blocks.



When there's trouble in the wind

That wisp of smoke could mean serious trouble.

But the man in the fire tower knows the way to avoid real trouble is to take prompt action when he gets the warning signal.

In your de-sizing operations you probably receive plenty of those signals that give warning of trouble ahead. Perhaps a variation in the sizing formula used, or variables in water, indicate an unusual problem to be met.

Bleachers and dyers count on Diastafor brand de-sizing agent—Type L when problems like these arise. They know they can depend on Diastafor to work well under widely varying conditions. Diastafor will give good results in a wide range of temperatures—and in a wide pH range as well.

When you want uniformly good results—a fine flawless finish . . . no streaks or blemishes—(and that's *all the time!*)—you can get them with Diastafor—Type L. It will give the same superb performance whether you are working with cottons, rayons, or mixed goods.

Whenever Diastafor is used it proves its value over and over again. For 39 years it has been the leader in its field, prized for its economy, ease of operation and fine performance. It's the all-purpose de-sizing agent that keeps trouble at a minimum.

When you have a de-sizing problem that signals "Trouble," please write us. We shall be glad to give you the assistance of our sales and technical staffs. Address Standard Brands Incorporated, *Diastafor Department,* 595 Madison Avenue, New York 22, New York.

DIASTAFOR

A TRADE MARK OF STANDARD BRANDS INCORPORATED

textile bulletin

Published Semi-Monthly by

CLARK PUBLISHING COMPANY

P. O. Box 1225 - CHARLOTTE, 1, N. C. - Telephone 3-3173

Offices and Plant: 218 West Morehead Street

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(P. O. Box 133 - Providence, R. I. - Telephone Williams 3957)

One year payable in advance - - - - - - - $1.50
Other countries in Postal Union - - - - - - 3.00
Single copies - - - - - - - - - - .10

Textile Bulletin is a member of the Audit Bureau of Circulations and the Associated Business Papers, Inc.

Not A New Idea

One afternoon about 25 years ago we entered the office of a textile institute in Manchester, England. It was an institute which had been operating for many years and had published numerous reports upon research in such subjects as the cellulose contents of cotton fibers.

We were pleasantly received but when we left two hours later it was evident that our going relieved embarrassment and gave much gratification.

We had read many of the organization's technical reports and, because we were not unduly impressed by its work, said early in the interview: "Tell us something you have done which has improved the operation of English mills or put them in position to reduce operating expenses or make larger profits."

In reply they spoke enthusiastically about the research they had conducted but we never could get them to name any finding which had actually been of financial benefit to English cotton mills.

We asked our question in many forms but never did we receive a satisfactory answer and the director of the textile institute was apparently much relieved when we departed.

The idea expressed in our editorial in our Sept. 1 issue, "Could Have Been Better Placed," is not new with us but was based upon convictions which have been with us for 25 years or more.

When the Institute of Textile Technology was being formed in 1943, which was just after the North Carolina Textile Foundation, Inc., had been organized and prior to similar foundations in Georgia and South Carolina, we said editorially.

We do not wish to throw cold water upon any form of research in the cotton textile industry but we are not certain that there will be an adequate return upon any and all funds spent for textile research and are afraid that some may be disappointed with results obtained.

One month later we again said in an editorial:

Those who are enthusiastic about highly technical cotton textile research have to paint pictures of future possibilities because they have no exhibits to place before the cotton manufacturers whose funds they seek. We predict that two years from now there will still be only pictures of the future.

These two expressions show that our present idea is not new but rather that we have waited patiently for not two, but for four years, hoping, but not expecting, that the Institute of Textile Technology would come forth with something which would justify the great expenditure of textile mill funds.

Looking back over 50 or 60 years we can see little that research has done for the cotton textile industry.

Mercerization of yarns and fabrics and some of the finishes for textile yarns and goods can probably be credited to research but as a whole cotton yarns and cotton goods are very much like they were when we entered the cotton textile industry in 1898.

There have been improvements in the opening and picking machinery, the revolving top flat card has replaced the stationary top flat card and the railway head, drawing frames have been improved and long draft roving and long draft spinning have come.

The Northrup or Draper loom and the Barber-Colman system of spooling and warping have been developed.

There are some other improvements, most of them minor changes, but as a whole cotton manufacturing is much the same as it was at the close of the last century.

Most of the changes which have been made in machinery were developed in mills and we can recall few which can be credited to technical research.

Research did wonderful things for wood pulp and the paper industry because it was based upon an inexpensive raw material and the fact that a small added value would show a profit.

Research produced "artificial silk" which later became known as rayon and research is now doing much to produce super rayons.

"Research" seems to be a magic word which carries to many men visions of new products and greater profits.

Much has been written about the accomplishments of Prof. George W. Carver, the Negro scientist, who until his death was connected with Tuskeegee Institute in Alabama.

One article pouring great praise upon Professor Carver said that as the result of research he produced 108 products out of peanuts and sweet potatoes.

Search the food stores today and not a single item will be found which was produced as the result of Professor Carver's research.

He did develop many products, possibly 108, but all of them were too expensive or were such unsatisfactory substitutes for other foods that they could not be profitably produced.

Nails can be made out of gold but their price would be too high for them to be made commercially.

The word "research" seems to fire the imagination of many men and to them any and all research means successful accomplishments and big profits.

As a matter of fact a very small percentage of research efforts, probably not one-tenth of one per cent, have resulted in anything but failure.

The American people have benefited much from research

and it should be encouraged in all fields where it can be reasonably expected to produce results.

The cotton textile industry is not, in our opinion, one of the fields in which there is much reason to expect success.

Because research in the field of wood pulp and paper produced splendid results is no reason to believe that research will positively produce results in cotton textiles.

There would be much more reason to expect research to produce results in the field of "new uses for cotton textiles" and much has been written and much money spent on research along such lines.

How many more uses are there for cotton textiles than there were 25 years ago? How many can you name?

There was excitement about cotton covering for cotton bales but it has lost ground in recent years.

There was much publicity about cotton cloth as a binder for black top roads but little, if any, is used today.

We deeply regret that research in "new uses" has not produced much increased demand for cotton textiles.

When the Institute of Textile Technology was formed we did not view the organization with optimism but we hoped that it would be able to "show us."

When the institute was isolated from the industry and those doing research were thereby denied contacts with cotton manufacturers we realized that chances of success had been greatly reduced.

After four years and after the expenditure of an amount, which is reported to us as over $2,000,000 the institute appears unable to report any accomplishment which will benefit the industry as a whole.

It hints that it has done confidential research for several textile corporations but it is our guess that any one of several private laboratories could have handled the same tests.

The Institute of Textile Technology was organized to do research which would benefit the cotton textile industry as a whole, or, at least, that was the impression which we received at that time.

We are asking now, as we asked the textile institute in Manchester, England 25 years ago, "What have you accomplished for the cotton textile industry.

We are absolutely sincere in saying that we wish it were otherwise but we seem to be getting the same kind of answer that we received at Manchester.

Telephone Numbers

As a convenience to those who use *Clark's Directory of Southern Textile Mills* we have for some years carried after the name of each mill, its local telephone number.

We have had occasion recently to find that some mills, which had changed their telephone numbers, neglected to include the change when returning their information blanks.

Some traveling men have taken the trouble to use a penny postcard and advise us whenever they find an erroneous number and we will appreciate others doing likewise.

It requires much less time to put through a call when the telephone number is known and it was for that reason we placed telephone numbers opposite mill names in *Clark's Directory of Southern Textile Mills.*

We are now completing a new edition and will appreciate information about erroneous numbers. We ask that every textile plant turn to its listing and advise us if the telephone number is not correct.

Protecting Their Communists

Both the A. F. of L. and the C. I. O. were a short time ago abusing those cotton mills which refused to obey every order issued by any member of any division of the National Labor Relations Board.

The labor leaders prated about law and order and said that, as the National Labor Relations Board had been established by Congress, it was the duty of all good citizens to treat it and its sub-divisions with respect and to obey its orders.

The Taft-Hartley Law is just as much an act of Congress as the former National Labor Relations Board but both the A. F. of L. and the C. I. O. are now advising their members to refuse to obey any of its orders.

This is especially true in regard to the section of the Taft-Hartley Law which requires unions to certify that none of their officials are communists.

The Taft-Hartley Law says that unless such certificates are filed no union can have any standing before the new National Labor Relations Board.

It is well known that many of the union leaders, especially in the C. I. O., have been actively affiliated with the communists and there is a suspicion that in some cases they have been drawing pay from both the C. I. O. and the communists.

Rather than lose its communist members the C. I. O. and also the A. F. of L. are refusing to sign the required affidavits.

The Taft-Hartley Law has been enacted by Congress and is not going to be repealed. Unless the C. I. O. obeys the law it might as well go out of business.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

TUCAPAU, S. C.—Startex Mills honored some 390 long-service employees recently at a barbecue supper and entertainment. Mrs. Lonnie Jackson was cited by President Walter S. Montgomery as the mill's oldest employee in point of service. She will have completed 50 years with Startex on Sept. 21. The Startex ceremony brought to 1,153 the number of employees who have been honored within the past month for long service in their respective plants, 299 at Beaumont Mfg. Co., 464 at Spartan Mills and 390 at Startex.

GRIFFIN, GA.—The dye plant of Dundee Mills, Inc., is to be transferred from its present location to a new $175,000 addition under construction by the company at Lowell Bleachery, South. Lowell Bleachery is being improved with new machinery at a cost of $300,000. The move will coordinate bleaching and dyeing operations, centering these facilities in one building. The new dye plant is expected to be in operation by April, 1948.

GRACE'S STATION, S. C.—Construction of the new $11,000,000 bleachery of the Springs Cotton Mills here is expected to be completed by May, 1948, with actual operations getting underway probably in September, 1948, with 2,000 workers being employed. The new plant is centrally located in respect to other mills of the Springs chain in the area.

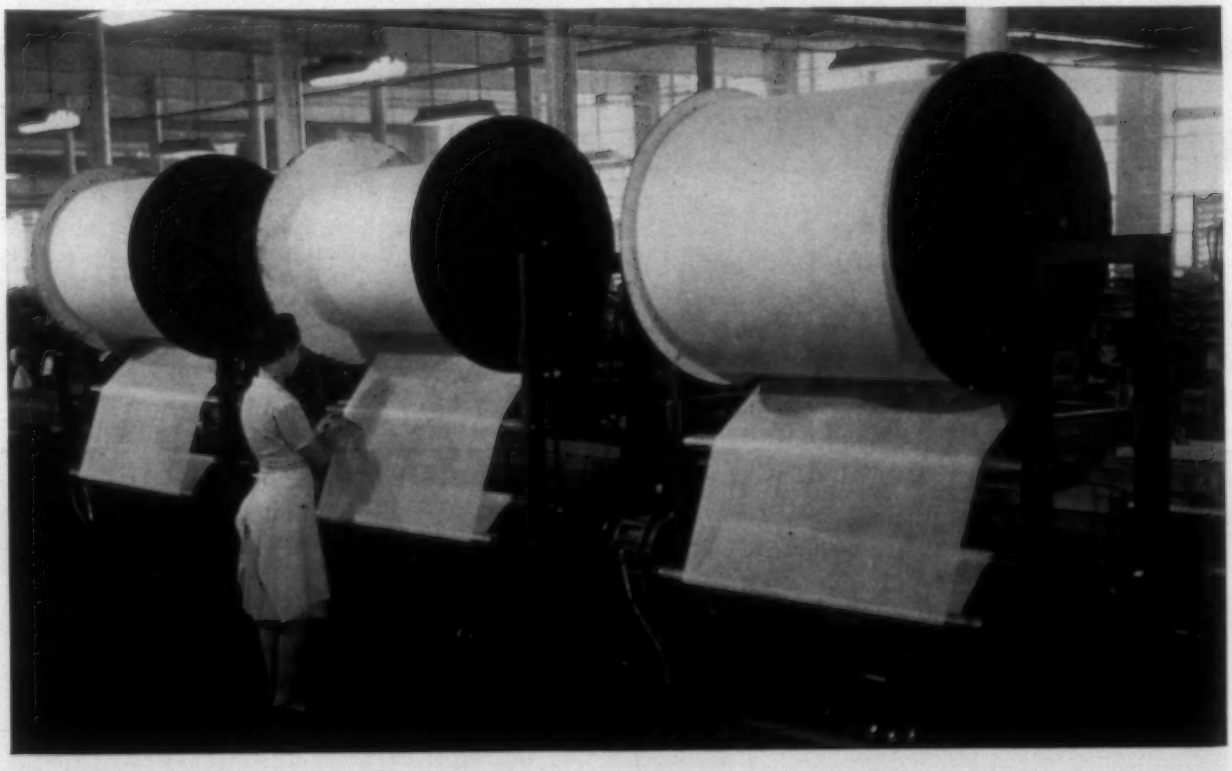
ATHENS, GA.—The Athens Mfg. Co. is adding another shift and employing 50 additional persons, according to General Manager D. D. Quillan. The new employees will add approximately $10,000 monthly to the company payroll.

WHITNEY, S. C.—Officials of Springdale Finishing South, Inc., are seeking to move the plant to a new $100,000 site at Camp Croft, S. C., because present facilities are inadequate.

GREENVILLE, S. C.—An order remanding to the state court the case of the Greenville Bargain House, W. H. Belk and John M. Belk as stockholders of Musgrove Mills, Gaffney, S. C., against officers of the Musgrove Mills was filed recently in Western District Federal Court here. The plaintiffs claim excessive commissions were paid to Wilson and Bradbury, a New York sales corporation, by the Musgrove Mills pursuant to the orders and directions of the officers and directors.

ABERDEEN, N. C.—Colonial Mills, Inc., has selected Aberdeen as the site for a spun rayon plant to be equipped with 19,200 spindles and 192 wide looms. To be known as the Robbins Cloth Mills, Inc., Aberdeen Division, the plant will produce high quality men's and women's suitings and will employ approximately 400 persons. Tentative plans call for production to get underway in the middle of 1948.

HILLSBORO, N. C.—A $400,000 improvement program is well underway at Belle Vue Mfg. Co. here designed to increase production, expand employment and enhance efficiency. Proposed new improvements include a complete new steam plant, modern cotton opening and cleaning



OVERHEAD BEAMS—Borden Mills, Inc., at Kingsport, Tenn., has for some time been trying out overhead beams and now plans to install them on 100 looms. The plant is running print cloths and similar fabrics. A 36-inch beam will run 14 weeks. In addition to the extended length of time a warp will run, the overhead beam makes looms more easily accessible to loom fixers and greatly reduces the number of oil stains on goods. There is, of course, the disadvantage of positioning warps in this high position, but this is expected to be overcome with the use of traveling hoists on overhead rails.

equipment, addition of latest type carding equipment and a 40 per cent addition to the mill's spinning equipment.

NEW YORK, N. Y.—Reeves Bros., Inc., of New York, with plants in the Greenville, S. C., area and at Columbus, Ga., is planning a modernization program as new machinery becomes available. John M. Reeves, president, stated recently that as newer, more efficient machines are perfected "it is proposed to install substantial numbers of these machines in the mills as part of a modernization program. It is expected that the cost of this program will be financed largely through the use of earnings retained in the business."

ELIZABETHTON, TENN.—North American Rayon Corp. is engaged in a rehabilitation and expansion program estimated to cost approximately $6,500,000, according to J. E. Bassill, president. Units I and II, making textile yarns, are being modernized to incorporate the latest technical know-how the company possesses as of today. At the same time, 6,000,000 pounds additional viscose capacity are being added, bringing the total production capacity up to 40,000,000 pounds. Plans for this expansion program had been completed prior to the acquisition of control of North American Rayon Corp. by the Office of Alien Property and are being carried forward as originally laid out. This is in harmony with the announced policy of David L. Bazelon, assistant attorney general in charge of the Office of Alien Property that the business of the corpartion will continue as usual, compatible with the national welfare.

MEMPHIS, TENN.—American Finishing Co. of Memphis recently became the latest major finisher to become a licensee of the Definized and Definized G processes of rayon and cotton shrinkage control. Charles F. Goodman, company president, announced that adoption of the Definized program is in line with his organization's newly announced policy of expanding operations to include rayon as well as cotton stabilization.

Promotions, Resignations, Honors, Transfers, Appointments, Elections, Civic and Associational Activities

PERSONAL NEWS

John W. Stewart, formerly New England representative of the Aqua-Sec Corp. of New York, has been appointed to the New York sales and development staff of the textile chemicals department of Monsanto Chemical Co. His headquarters will be in Monsanto's new offices at 445 Park Avenue, New York City.

Harold M. Messenger recently assumed new duties as industrial sales representative of Taylor Instrument Cos., and will cover part of North and South Carolina working out of the Atlanta, Ga., office of the firm. Mr. Messenger, a war veteran, completed an intensive course of instruction at the plant in Rochester, N. Y., lasting almost a year, before assuming his new duties.

R. C. Shaw, engineer for Mandeville Mills, Inc., Carrollton, Ga., and a former Carrollton city councilman, has announced his candidacy for member of the Carrollton Water and Light Commission in the city primary election to be held Sept. 20. P. L. Shaefer, head of Caroline Mills in Carrollton and a member of the Water and Light Commission for 18 years, has announced that he would not be a candidate for re-election to the post.

Samuel F. Adams of Atlanta, Ga., has been named sales representative for the American Paper Tube Co. in Georgia, Alabama and Tennessee, operating from the Greenville, S. C., office of the firm. Mr. Adams attended Georgia Tech and was formerly associated with Fulton Bag and Cotton Mills of Atlanta.

Ira L. Griffin of Charlotte, N. C., has been appointed Southeastern representative for the Hubinger Co. of Keeokuk, Iowa, manufacturer of corn starches and other corn products. Mr. Griffin, with his son, Ira L. Griffin, Jr., pictured at left and right above, began offering the Hubinger Co. products under the trade name of OK Brand Products on Sept. 1. Mr. Griffin has had a long association with the paper and textile mill trades in the Southeastern states and will render technical service along with the products he is offering.

Richard Pollock, Jr., recently resigned as textile industry engineer with Brown Instrument Co. to join the sales staff of Franklin Process Co. He will sell cotton yarns and dyeing service out of the Philadelphia office, covering the Philadelphia, New York and New Jersey territories.

Robert Laffan has been named assistant in charge of publicity to John A. Spooner, Textron, Inc., vice-president in charge of public relations and advertising. Prior to joining Textron, Mr. Laffan was a public relations account executive for J. Walter Thompson Co. in the Wall Street office of the advertising agency.

F. E. Bozeman, Jr., has resigned as assistant superintendent at Standard - Coosa - Thatcher Co., Chattanooga, Tenn., to accept the position of superintendent of maintenance for Dan River Mills, Inc., Danville, Va.

Dr. Simon Williams of New York recently was named to the newly-created post of dean of the Lowell (Mass.) Textile Institute. Dr. Williams, 34, formerly associate director of research for a Boston fabric research laboratory, will assist in the administration of the student body and faculty.

A. S. Bedell has succeeded the late J. E. Sirrine as chairman of the executive committee of J. E. Sirrine Co., engineering firm of Greenville, S. C., and builder of numerous textile plants in the United States. Other members of the executive committee include H. L. Hagerman, George Wrigley and A. D. Asbury, one of whom will be named vice-chairman to succeed Mr. Bedell in that post.

Olin C. Shedd, group manager of four Burlington Mills Corp. plants in the Fayetteville, N. C., area, recently assumed the management of Oxford Cotton Mills, purchased by Burlington in October, 1946.

William W. Mussman has joined the Ware Shoals (S. C.) Division of Riegel Textile Corp. as director of personnel and will be associated with W. M. McFreely,

assistant director of industrial relations for the company. Mr. Mussman was formerly a senior staff member on industrial relations for the National Industrial Conference Board in New York.

Erwin R. Lehmann, formerly superintendent of the West Point Mfg. Co. plant at Langdale, Ala., recently was appointed personnel director of West Point Mfg. Co., Lanett, Ala., and Dixie Cotton Mills, LaGrange, Ga. Robert L. Rearden was named superintendent of the Langdale mill to succeed Mr. Lehmann and H. G. Webb, Jr., was named assistant superintendent.

Luther H. Hodges, vice-president of Marshall Field & Co. and general manager of the Fieldcrest Mills plants of the firm at Spray, N. C., is expected to transfer his headquarters to the plant in Spray sometime in November. Mr. Hodges will make his home in Spray.

Robert Z. Cates, president of Arkwright Mills near Spartanburg, S. C., recently was elected vice-president of the newly organized Piedmont National Bank at Spartanburg.

A. P. Newton, formerly sales engineer, has been appointed as assistant to the president and director of a newly established research and sales promotion department of the E. H. Jacobs Mfg. Corp. plant at Charlotte, N. C. Mr. Newton's sole duty will be to develop new uses in the textile industry for a laminated wood and plastics material as a substitute for natural woods in a variety of mechanical supplies. He is a native of Canada, but prior to coming to Charlotte had lived much of his life at New Brunswick, N. J.

J. L. Brooks of Spartanburg, S. C., has been appointed director of sports and recreation at Erlanger Mills, Inc., Lexington, N. C. Mr. Brooks also will act as an assistant to O. C. Hinson, personnel director of the mills.

Richard N. Tandler has been named president of La France Industries, Philadelphia, Pa., succeeding Paolino Gerli, who resigned to devote more time to other interests. Mr. Tandler resigned recently as an official of Kroehler Mfg. Co. Mr. Gerli is head of Gerli & Co., raw silk firm, and president of the International Silk Guild which is currently making plans for an extensive silk promotion campaign.

Henry W. Pittman, agent of the Porterdale division of Bibb Mfg. Co., Macon, Ga., has announced his retirement from that post effective Oct. 1 to return to his old home in Macon. B. B. Snow, general superintendent of the Porterdale division, will succeed Mr. Pittman as agent. Other supervision changes at Porterdale follow: M. B. Shaw, formerly overseer of spinning at Osprey Mill, is being transferred to Porterdale and Welaunee Mill as assistant superintendent. . . . He is to be succeeded as overseer of spinning at Osprey by O. N. Fisher, at present overseer of twisting at Osprey. . . . Mr. Fisher will be succeeded by N. J. Piper, formerly assistant overseer of spinning, who in turn will be succeeded by J. T. Carter, who has been shift foreman in Osprey spinning.

William D. Anderson, president and chairman of the board of Bibb Mfg. Co., Macon, Ga., was married Sept. 10 to Miss Jennie Loyall, educator and member of a prominent Virginia family. Mr. Anderson has served as president of the American Cotton Manufacturers Association, as director of the Cotton-Textile Institute, and is a life director of the Georgia Cotton Manufacturers Association.

Dr. Emmet F. Hitch, special assistant to the management of the Du Pont Chambers Works, Deepwater Point, N. J., is retiring from that post Sept. 30 to joint the faculty of Purdue University as professor in the department of chemistry. . . . Ernest J. Braun has been appointed director of sales of the fabrics division of the fabrics and finishes department of E. I. du Pont de Nemours & Co., Inc. . . . Mr. Braun's promotion completes a series of changes in the Fabrics Division following the death recently of M. J. Callahan, manager of the division from 1941 to 1947. . . . J. R. Buckley, former assistant manager, was promoted to manager and Max N. Nickowitz, formerly director of sales, became assistant manager.

OBITUARY

Dr. William V. Skiles of Atlanta, Ga., dean emeritus of the Georgia School of Technology and a leader in its development into one of the nation's great engineering schools, died recently. Surviving are his widow and a son.

B. S. Mills, 61, accountant of Charlotte, N. C., and at one time secretary of Judson Mills, Greenville, S. C., died Sept. 4 after a lengthy illness. Surviving are his wife, three sons, two sisters and a brother.

W. Ben Smith, 74, retired textile executive and merchant of Greenville, S. C., died Sept. 9 at a Greenville hospital. Mr. Smith was first a secretary and later vice-president of Brandon Mill in Greenville from 1889 to 1914 at which time he resigned to enter the merchantile business. Surviving Mr. Smith are his wife, one son and a sister.

E. Rowell Holt, Sr., of Charlotte, N. C., Southern representative of U S Bobbin and Shuttle Co., died recently in a Charlotte hospital after having suffered a cerebral hemorrhage. Surviving are his wife, a daughter, two brothers and two sisters.

John T. Wood, 53, superintendent of the textile department of the American Enka Corp. plant at Asheville, N. C., died Sept. 3 of a heart attack at the plant. Mr. Wood was a graduate of Clemson College, Clemson, S. C., and held membership in the Research Institute of America. Surviving are his wife, a son, a daughter, two sisters and a brother.

Earl A. Powell, Jr., 29, who was an employee of Universal Winding Co. and was a son of the superintendent of the Goodyear Clearwater Mill at Rockmart, Ga., died Sept. 1 at his home in Providence, R. I.

For the Textile Industry's Use

EQUIPMENT — SUPPLIES — LITERATURE

New Booklet Promotes Use Of Electric Trucks

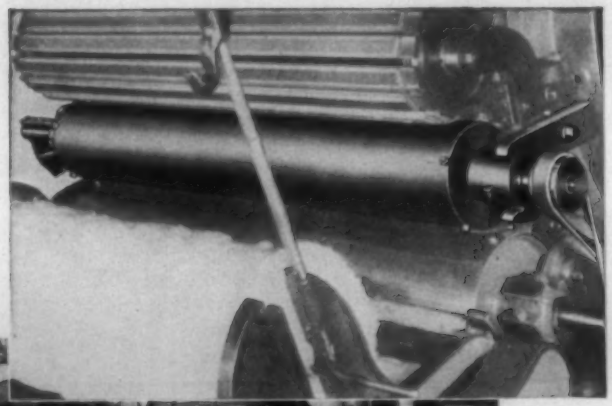
Looking Beyond the Price Tag, a new booklet published by the Electric Industrial Truck Association, 29-28 41st Avenue, Queens Plaza, Long Island City 1, N. Y., is being distributed by its member companies, the manufacturers of approximately 90 per cent of the storage battery-powered industrial trucks, storage batteries and battery charging equipment in the United States. The booklet stresses the importance of interpreting the value of such equipment in terms of dependability, handling speed, low operating cost, safety for workers and freedom from noise, fumes and odors. A discussion of basic requirements of mechanized material handling systems, and the importance of continuity once the flow of materials is mechanized, begins the text. Cartoon illustrations point up the main factors in industrial truck selection.

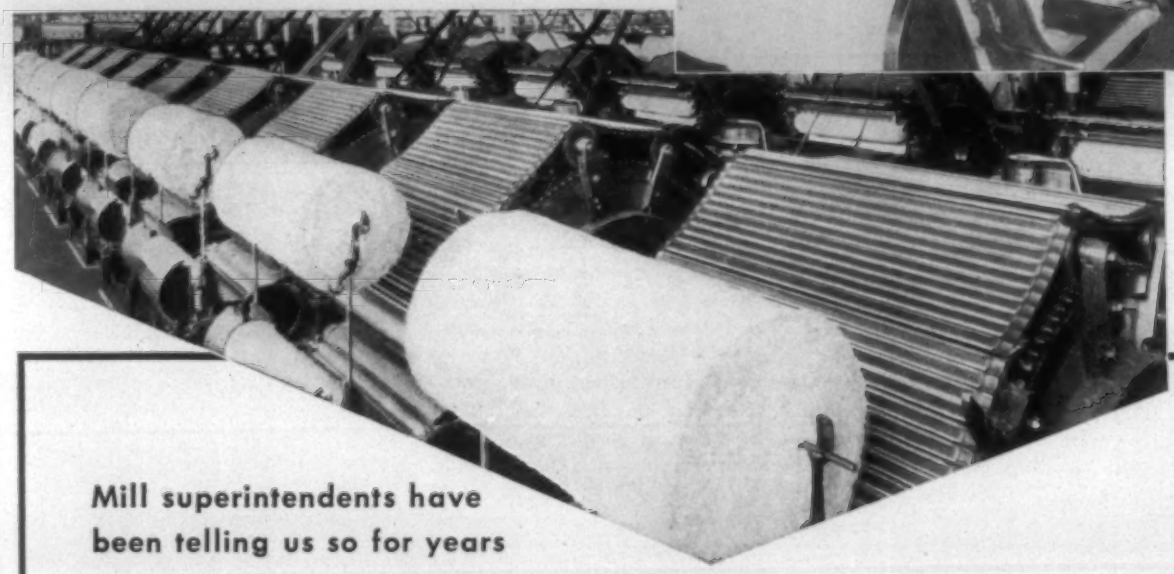
Butterworth In Process Of Enlarging Facilities

H. W. Butterworth & Sons Co., Inc., is using part of a 22-acre tract it owns at Bethayres, Pa., to build an addition to its present foundry building there, according to John Spencer, treasurer. The new building is part of $225,000 modernization and expansion program designed to cut the firm's heavy backlog of textile machinery orders, said Mr. Spencer. The building, expected to

OVER 12,000
CONTINUOUS STRIPPERS

are saving time, increasing production and improving quality in American mills





Mill superintendents have been telling us so for years

Here are a few excerpts from their letters:

1930 *". . . the cards will run almost indefinitely without stripping . . . we expect to send you an additional order."**

1936 *". . . we feel you are conservative in your claims."**

1940 *". . . we are very well pleased with the performance of this equipment . . . we have found definite savings as well as more uniform work."**

1943 *". . . they have paid for themselves many times over . . . we could not get along without them."**

1946 *". . . Mr. ——* is high in his praise of our Continuous Strippers. Says they are doing a wonderful job, and he really has good-running work to prove it. Very seldom see an end down on spinning, even though he is running some irrigated cotton which several of the other mills in this group say they cannot run."*

1947 *". . . Mr. ——* told me that since installing these strippers the yarn breaking strength had gone up and the looms were running at a higher efficiency."*

*Name on request.

The efficient Saco-Lowell Continuous Card Stripper offers your mill these proved advantages: saving of cotton — increased production — improvement in quality of yarn — cleaner card room — saving in labor costs — reduction in power consumption. It is easily and quickly installed on all Saco-Lowell Cards — and on many other makes as well. Write the nearest office for our Bulletin giving complete details.

Saco-Lowell Shops · **BOSTON**

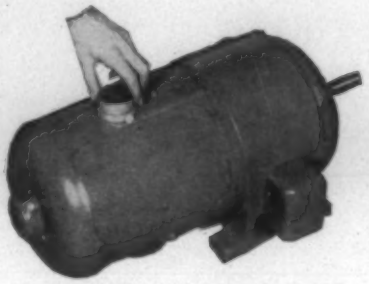
Shops at Biddeford, Maine

Branches: Charlotte · Greenville · Atlanta

be in use by Jan. 1 at the latest, will be used for machining of castings and crating of finished equipment for export, Mr. Spencer explained. It will be a one-story structure, 180 feet long by 90 feet wide, built directly onto the foundry. The addition will create employment for another 75 machinists and other shop help, Mr. Spencer said. Butterworth has been expanding and rearranging its production facilities for almost a year, he revealed. Quonset huts for storage purposes have been erected at Bethayres and the movement of stored materials at the main plant in Philadelphia will increase assembly space there. In addition, 30 standard machine tools have been bought and three special machine tools were designed by Butterworth engineers.

New G. E. Motors Feature Dial Speed Adjustment

A new line of Tri-Clad brush-shifting adjustable-speed induction motors, Type ACA, has been announced by the motor division of the General Electric Co. Available in ratings from three to 50 h. p. (220, 440 and 550 volts), the new motor features stepless speed adjustment over a 3:1 ratio by simply turning a dial. The entire unit, with the exception of the starter control, is self contained in a housing only a little larger than that for a constant-speed motor of comparable rating.



Remote speed control can be accomplished by use of a flexible cable shaft up to ten feet away from the motor. For complete remote control, a small pilot motor can be used to drive the speed control mechanism. Uniform cooling with low intake velocity is provided by double-end ventilation. Necessary over-load protection and limit switches to insure proper starting are built into the motor. The standard frames (225 to 505) have N. E. M. A. mounting dimensions. For resistance to oil and heat ageing, Formex wire stator windings are used. A cast-iron bearing enclosure protection from moisture, dust and dirt. The motor is rated on a constant torque basis. It will carry full-load torque at rated current and frequency without exceeding a temperature rise of 40° C. on high speed or 50° C. on low speed, measured by a thermometer on the windings. Power factor is high when the motor is running at high speed. At synchronous speed, it is about the same as with a squirrel cage induction motor of similar rating.

For intermittent use, speeds below minimum rated may be obtained by adding secondary resistance. Plugging is possible by the same means. The motor is reversible for short periods of time by reversing two power leads. Convenient inspection plates may be removed for inspection of brushes and brush-shifting mechanism. The motor may be greased while in operation. All necessary inspections may be performed without removing any operating parts. Additional information is given in Bulletin GEA-4854, available from G. E. headquarters at Schenectady, N. Y.

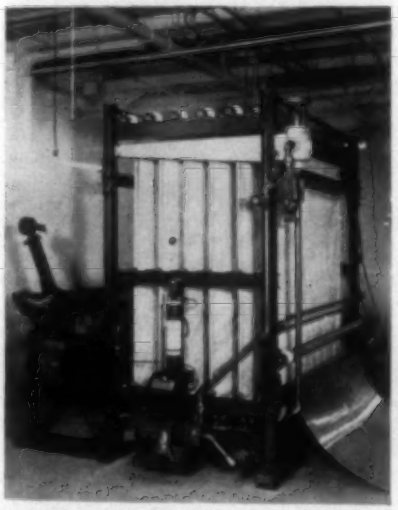
Fabric Display Case Is Made From Plexiglas

Samples comprising the varied line of textiles manufactured by William Skinner & Sons, New York City, are displayed at the sales offices in sturdy cases of lightweight, shatter-resistant Plexiglas, product of Rohm & Haas Co., Philadelphia, Pa. Equipped with a

hinged cover, lower side door and wheels for easy rolling, the Plexiglas display case contains removable plastic headers to hold fabric samples which may be easily seen and identified through the transparent Plexiglas. The fabricator is Pathway Plastics Corp., 29 Jumel Place, New York City.

New Cloth Conditioning Machine Has Filt-R-Still

Sjostrom Machine Co. of Lawrence, Mass., announces the introduction of an entirely new cloth conditioning machine equipped with Filt-R-Still made by American Cyanamid Corp.



The principle of this new machine is based on natural evaporation; the cloth passing close to, but not touching water surfaces. The hot and dry cloth absorbs its natural moisture content and regains the weight lost in drying or press. The American Cyanamid Filt-R-Still assures a constant flow of absolutely pure water at the rate of eight gallons per hour. If the cloth is absorbing six per cent moisture and traveling 1,000 yards per hour, 60 pounds of water is evaporated and taken on by the cloth, thereby improving handle, appearance and finish.

Houghto-Size CW Is Described In Folder

A new descriptive folder on Houghto-Size CW, a one-piece sizing agent which combines softener, binder and plasticizer, is now available upon request from E. F. Houghton & Co., 303 W. Lehigh Avenue, Philadelphia 33, Pa. Houghto-Size CW, developed in the years of material shortages during and immediately after the war, according to its producer, has proven its out-

standing merits in production as a new, economical concept of warp size material, offering improved weaving results with a new low kettle cost. Ask for *Folder 2-316.*

Keller Tool Develops Pneumatic Bolster Cleaner

Development of a bolster cleaner to speed removal of lint and waste material from the inside of roving frame bolsters is announced by the manufacturer, Keller Tool Co., Grand Haven, Mich. With the new pneumatic tool, a situft wire brush is inserted through bearing bore at the top of the bolster and the air-powered motor is started. As the brush rotates; it gathers the lint, then pushes it out of the bottom of the bolster. The wire brushes are flexible enough to be inserted through small diameter bearing bore and then spring behind the bore to contact and clean inside bolster surfaces. The tool, it is stated, can be operated by an overhaul or maintenance crew and it is not difficult to understand how to use it efficiently.

Many New Advancements In New Benjamin Product

The new Banjamin Lite-Line 40, continuous line lighting system produced by Benjamin Electric Mfg. Co., Des Plaines, Ill., embodies many new advancements, chief of which are the new Springlox safety lamp holders, new sliding hangers, new channel couplings and new longitudinal shielding for the twin lamp units. These advancements, the company claims, are designed to make possible even greater savings in installation, easier and more economical maintenance, greater suspension strength and alignment rigidity, further minimization of direct lamp glare and easier lamp removal and insertion. To provide complete data on continuous line lighting and on the new Lite-Line 40 to those interested, the company recently published a 28-page catalog and lighting manual on continuous line lighting which will be furnished free on written request to the company. The catalog describes such features as the new Springlox safety lamp holder, separable construction, simplified installation, new shielding and new reflector widths.

Tension Meter Developed By Saxl Instrument Co.

Regardless of what machine the yarn is wound on or how processed, correct tension is the determining factor for running at highest economic speeds and producing the greatest number of yards per pound. To do this essential work an advanced instrument has been developed by Dr. Erwin J. Saxl, textile consultant. The Saxl tension meter, because of trigger operation and automatic yarn inserter (see picture) permits quick and easy checking of all tensions. It helps to select the highest safe operating speed for a particular frame so that the yarn will not be stretched excessively in any one position. Thus higher speeds and fewer ends-down are possible, greatly increasing the economy of operation of all types of textile machinery.

This new tension meter is described as an aid for increased production and improved quality with all types of thread-like materials, ranging from chemical spinning of synthetic yarns to processing of fine nylon yarns, throwing silk and synthetics, quilling, warping and winding cotton, spun rayon and wool. The tension under which the yarn leaves the shuttle also can be measured. It helps to maintain the right tensions in wrapping rubber cores, making crepe yarns and other yarns where controlled elasticity is

vital. Additional applications are found in the covering of fine wires for the electrical industries, and in the control of the tension of cords in the manufacture of rubber tires, where tire life is increasing by proper tension control. A brochure clearly describing the many applications of the Saxl tension meter may be obtained without charge upon request to Saxl Instrument Co., Harvard, Mass.

New Aluminum Bobbin Is Offered By Regnery Corp.

A new aluminum bobbin accurately formed on close tolerance precision machinery and said to be true and uniform throughout is being produced by the F. L. Regnery Corp., 613 West 16th Street, Chicago, Ill. With the Regnery spindle adapter, it is claimed, it gives a better balanced, more concentric spinning assembly and enables a mill to secure longer traverse with savings in both doffing and spooling operations. The bobbin rides evenly on the spindle, and a plastic insert at the top results in easier doffing. A double wall of aluminum tubing in the bottom enables the bobbin to withstand excessive abuse in spooling operations and to stand up under the pressure exerted in winding synthetic and treated yarns.

This durable aluminum bobbin, specially heat treated and hardened, carries through the precision work on the spindle and provides better spinning with less ends down and less bolster wear due to the elimination of vibrations. Aluminum was chosen after exhaustive tests because it has characteristics unlike other metals in that it absorbs shock without deforming, is light in weight, and is easy to handle in mill operations. The bobbin is exceptionally durable and is said to last longer than either wooden bobbins or paper tubes with smoother performance. It can also be used in the treatment of yarns where paper or wood would not be acceptable.

American Standards Listed In Revised Compilation

An entire new listing of its 874 standards is now available free of charge from the American Standards Association, 70 East 45th Street, New York 17, N. Y. The new listing of American standards includes prices which are revised slightly upward, because of increased production costs in publishing. A number of additional

revised standards approved since the January, 1947, issue of all American Standards are included. Under the new price listing a complete set of all American Standards comes to $200 and a complete set of all American Safety Standards costs $32.50 a set Customary quantity discounts are allowed in the new catalogue. These range from 20 per cent to 45 per cent for various quantities up to 1,000.

Variable Speed A. C. Drive Is Described

A new four-page bulletin describing an alternating current motor having infinitely adjustable speed is now available. The Louis Allis Co. Ajusto-Spede provides a variable speed output with a constant torque characteristic through an entirely new eddy current principle without the usual motor generator set or exciter. The Ajusto-Spede operates directly from a two or three-phase A. C. line. The drive is especially suited for driving such equipment as calenders, conveyors and any other variable speed machine requiring constant torque input throughout its operating speed range. Continuous duty speed ranges as high as ten to one are possible in the smaller sizes; intermittent duty speed range is infinite in all sizes. *Bulletin 611-C* can be obtained directly from the Louis Allis Co., 427 S. Stewart St., Milwaukee 7, Wis.

Herringbone-Gear Reducers Described In Catalog

Many new sizes and types of enclosed herringbone gear units for speed reducing and speed increasing service are detailed and described in *Book No. 1819* of 68 pages, recently completed by Link-Belt Co. and now available for distribution. Link-Belt herringbone-gear reducers are described as efficient, smooth-running, compact, fully enclosed units, designed for heavy-duty industrial service where heavy shock loads and continuous service are encountered. These herringbone-gear reducers are now available in sizes ranging from one-half to 1,000 h.p., permitting their use in that larger field of horsepowers not adequately served by motorized or worm gear reducers. Link-Belt herringbone-gear units are used for transmitting power from electric motors, steam turbines and gas or Diesel engines. They are particularly adapted for use with high speed induction motors, which not only cost less,

but have top efficiency. The new book is very complete as to the engineering information it contains. This includes reducer selection data and examples of proper application; dimensions and horsepower ratings; lubrication data; and tables of maximum allowable pull on high and low speed shafts.

A copy will be forwarded promptly on receipt of request, which may be addressed to Link-Belt Co., 2045 W. Hunting Park Avenue, Philadelphia 20,, or other office of the company.

Special Finishes Theme Of U. S. Testing Co. Bulletin

An informative Testing League Bulletin of the United States Testing Co., *Special Finishes for Service, Protection and Appearance,* is offered free to all interested by the U. S. Testing Co., 1415 Park Avenue, Hoboken, N. J. The bulletin contains a tabulated list of seven general types of finishes and their purposes, under the following categories: Water - Repellent Finishes, Waterproof Finishes, Absorbent Finishes, Antiseptic Finishes, Flameproofing and Fireproofing Finishes, Character Finishes and Moth Preventives. The trade-names of 140 finishes are listed, together with manufacturer, type of fabric on which they are applicable and the properties of the finishes.

Offer New Fork Lift Truck and Tractor Guide

Selection of the correct fork lift truck, industrial tractor, or fork lift truck accessory, for any materials handling job, has been greatly simplified through the publication of a new 28-page lift truck guide by Towmotor Corp., 1226 East 152nd Street, Cleveland 10, Ohio. The booklet, produced in handy pocket size, contains illustrations and drawings of the complete line of Towmotor materials handling equipment, together with a list of important specifications for each model. Towmotor Corp. is now producing nine models of fork lift trucks with capacities ranging from 1,500 to 10,000 pounds. Four industrial tractors and ten of the more frequently used fork lift truck accessories, designed to simplify unusual and difficult handling operations, are also in production. Copies of the new *Fork Lift Truck and Tractor Guide* may be obtained from Towmotor Corp. or from any authorized Towmotor sales and service representative.

CLASSIFIED DEPARTMENT

Wanted—Position as Superintendent. Experienced on carding, spinning, ring twisting, tube twisting (Brownell), polishing, winding and seine twines, rope. Employed; sober. Reliable and energetic. Write "HED," care Textile Bulletin, P. O. Box 1225, Charlotte 1, N. C.

WANTED—Job as night overseer. Experienced on numbers 4's to 40's, carding, spinning and twisting. Employed, but desire change. Married; age 42. Sober; good manager of help; experienced on time study. Write "Night Overseer," care Textile Bulletin, P. O. Box 1225, Charlotte 1, N. C.

EXPERIENCED Weave Room Overseer available. Now employed, but would like to make a change. Can furnish good recommendation; age 40; sober and thoroughly reliable. Write "Available," care Textile Bulletin, P. O. Box 1225, Charlotte 1, N. C.

WANTED—Position as Superintendent; more than 15 years' experience as superintendent of mills making sales yarn, carded and combed, coarse and fine counts; both practical and technical knowledge of manufacturing. Prefer mill that needs quality raised, costs cut and waste reduced or that needs to change from coarse to fine counts. Can furnish good references; now employed as superintendent; good reason for desiring to change. Write "Confidential," care Textile Bulletin, P. O. Box 1225, Charlotte 1, N. C.

WANTED—Position as superintendent or overseer of weaving. 24 years' successful experience with two firms. Fully experienced on all types cotton and limited rayons. Sober, reliable, energetic and producer but not a know-all. Will welcome inquiries. References furnished gladly. Write "Supt," care Textile Bulletin, Charlotte, 1, N. C.

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Superintendent's Interest In Quality Cotton

(Continued from Page 26) components, in order that you see factually how vitally cotton quality affects direct operating costs. The job of the spinner is probably the most familiar single job to all of us, and whatever we can conclude from it will, in a large measure, be true of other processes. The particular breakdown I have here for you is an average one, derived from 15 yarns varying widely in count and in end usage, from coarse industrial yarns to fine combed yarns, to make it as representative a study as possible.

The average spinner, exclusive of fatigue time, spends 20 per cent of her time in replenishing the supply packages in her frame, or simply, in creeling; 23 per cent of her time in various cleaning operations; 13 per cent in patrolling; and the remaining 39 per cent in repairing end breakage and allied work. That is to say that 39 per cent of the spinner's time is occupied with an element of work that varies directly with the running characteristics of the stock, which in turn are very strongly influenced by cotton quality. Specifically, this means that if the end breakage on a spinner's assignment were reduced from 40 ends down per thousand spindle hours to 30, the total direct cost of the spinner can be reduced by ten per cent. It can be assumed that the well-run mill will already have accomplished the reductions in end breakage that could come from improved practices within the plant. A further reduction, such as the one we mention, must generally come from improved running qualities of the stock, or improved spinability. When we talk to the mill manager about a ten per cent reduction in his spinning cost, he is going to be a very attentive listener.

No matter how industriously we strive for uniformity in running quality, variations always remain. This means that the spinner's piece rate structure must be built upon studies that have been made over a period that is long enough to insure the inclusion of all running conditions, not simply the better portion. The result is an assignment of such size that the spinner will have sufficient latitude to be able to take care of the periods of poorer running qualities. This latitude is a costly business, for without it, the spinner could tend a greater number of sides with a corresponding reduction in unit costs. Again we may recognize that in the well operated plant, management will already have taken the necessary steps, such as large scale blending of stock, top flight preventive mechanical maintenance throughout, uniformity of temperature and humidity conditions, and so on, to assure itself of all the uniformity of operation that is consistent with practical cost. We must realize that continuity of good operating characteristics stems from continuity of quality in cotton. In order that we capitalize on good quality in cotton, the quality must be continuously good.

At first blush it may seem that cotton quality and human relations are entirely disassociated. But I assure you that such is not the case. The first requisite for satisfied help and harmonious relationships in the plant, is good running work. The operating people, the spinners and weavers, know, and no one knows better, how a job should run. When a process fails to meet the standards that a machine tender recognizes from years of experience, he becomes dissatisfied with it. His dissatisfaction is not lessened by simply reducing the size of the assignment correspondingly. I am certain that a machine tender in a cotton mill attaches much more importance to good running work than we

usually suppose. Given his choice between an excellently running job and one running only moderately well, but at a higher earning level, our workman will choose the job with the good operating characteristics every time. This is not a matter of the quantity of work assigned the tender and his acceptance or rejection of it as such, but is a matter of meeting a workman's standards for his job. We cannot afford to underestimate the importance of the effect of quality in our cottons in keeping our labor relations smooth. We may have efficient supervision and high earnings and group benefit plans, but if our running qualities are spotty, our personnel relationships are spotty to the same degree.

The final judge of quality is the manager's customer. The customer is not usually conversant with mill processing techniques or breeding and growing problems, and probably doesn't care to learn. He has problems of his own. First, last and always, he demands quality fabrics or quality yarns, and he can apply considerable pressure to get what he wants in that respect. The plant manager knows that the first requisite for quality in his end product is quality, or good processing characteristics, in his raw materials. No matter what a cotton has been classed in terms of grade and staple, without a good measure of spinability it will not make a superior end product. Once we have processed our cotton through the cleaning operations and have started it on the various processes that carry it through drafting and spinning and warping and slashing and weaving, then every interruption to perfect running is a probable defect in the final product. Not only is each end down at each process a potential defect in itself, but also each end down gives rise to additional end breakage in subsequent processes because of its presence. The effect is accumulative, until the end product finally will reflect all the results of poor running characteristics in the cotton from each process.

Sometimes the cotton grader and the plant manager alike are fooled in their evaluation of a particular lot of cotton. But we can't ever fool our cotton processing machinery. It will point out poor spinability very quickly in lowered machine efficiencies. Nearly all textile machinery is designed to stop, or to be stopped by its operator, whenever an end comes down. Excessive machine stoppage of this sort is disastrous. It doesn't have to go too far before a resultant reduced output will not carry its share of indirect operating costs and overhead. When we stop to consider that a loom, with several thousand ends in it, goes out of operation whenever any single end breaks, we see how even a slight betterment in cotton quality can be very important to us in machine efficiency.

Poor spinning qualities and high waste percentages go hand in hand. Once we are past the cleaning operations, the amount of waste made will be heavily dependent upon running characteristics. It is not beyond the bounds of practicability to be able to decrease waste by as much as one per cent through improved running qualities. Many times a difference of one per cent in the cost of a stock could be the difference between operating at a profit, or at a loss.

Even though the grower, by virtue of exercising all the science at his disposal, has turned out a cotton that will rank high in spinability, the mill man can't reap a benefit from it unless it has been ginned properly. All the good characteristics that have been bred and grown into that stock can be thrown away at the gin. A machine setting which will include a high percentage of linters with the spinable fiber, or a rate of processing that is so great that it damages the long fibers, or the ginning of cotton with too

high a moisture content, will positively destroy the characteristic that the manager needs. And, of course, the value received by the grower is correspondingly reduced.

Then, if I were a cotton grower, and the mill manager told me that from a stock of improved spinning qualities, he could reduce labor costs, better his employee relations, assure a higher degree of uniformity of operation, furnish his customer a more desirable end product, raise his machine efficiency, and lower his waste percentage, I would also want to know from that mill manager if he were willing to pay a premium for such a stock. The answer to that is yes, yes to the full extent that the manager can make his operation more profitable by investing more for improved stock.

More From The Mill Superintendent

(Continued from Page 28) Grower and Mr. Breeder, it may mean one thing, and to me, Mr. Spinner, another. Mills are rapidly going into this field of investigation, and the means are at hand to evaluate the spinning qualities of cotton before it is run, and also to determine what area and varieties produce cotton fibers of the best spinning qualities and the least waste rather than relying entirely on grade and staple method.

It has been found that by supplementing grade and staple length classification with other data on such properties as fiber strength, fiber quality, fiber length, as well as uniformity, and fiber fineness, the spinning value of cotton can be predicted with a relatively good degree of accuracy. This means that the spinners today can predetermine within reasonable limits whether or not the cotton that he has in his warehouses will or will not be suitable to make the yarn or fabric that a customer specifies.

Spinning tests furnished by the United States Department of Agriculture, textile schools and laboratories are valuable aids to the grower and the breeder, as well as the spinner. At present spinning ability is defined quantitatively in terms of equivalent length in regards to strength and in percentage of waste during manufacturing processes. However, from the manufacturer's view-point there are other factors, and some are very hard to define. Of course, the manufacturer is interested in equivalent length for that has a direct bearing on break requirements and the performance of his weaving. Certainly waste, for the amount of waste that will have to be removed greatly affects the total manufacturing cost. Also, the type of waste. For certain type waste is almost impossible to remove with present opening and cleaning processes after the cotton has been pressed into a bale. Is it quite fair to the mill to have to pay this full price, plus the labor and machinery to remove in reality what the gin should have done?

The manufacturer is concerned with still other factors than the equivalent length and waste, and these are much harder to evaluate. Namely, these are ends down, uniformity, appearance of yarn (which in turn can be reflected in the end product), ability to absorb moisture, dyeing qualities and finally the general performance of the mill. Mill management is keenly aware of the problems which are likely to come with machine picked cotton. Please don't misunderstand me, mill management wants to see the growers efforts receive higher rewards, and the only economic basis for this reward to come is in lower unit production cost. I contend that one man, one mule, one furrow cultivation must end. The colorful scene of the Negro field hand harvesting the crop must be replaced by the machine. Sub-

sidies and economic controls are not the answer. Also, these same type methods must be eliminated from the mill's lines of processes.

Some of the men from the cotton fields, and those who made improvement in mechanization of farming contended that if the mills and textile machinery builders had likewise made some contribution towards the improvement of our machines and processes that the economics of the textile industry would be way out in front. I think this an unfair charge for we have many more machines and processes to deal with. However, we might cite automatic spooling, high-speed warping, tie-in machines, one-process pickers, long-draft and others, to say nothing of improved finishing methods and styling which have enhanced the value and beauty of cotton fabrics.

Also, keep in mind that instead of the protective umbrella of subsidies being held over the industry's head, we have been caught in the down pour of minimum wage, and wage and hour acts, to say nothing of still other pressure groups encouraged by very left of center influences. Remember the blue eagle of N. R. A. first roosted on the textile industry. Remember too, the problem of the grower is our concern as well as your concern. Unless cotton fibers can be raised and manufactured so that cotton fabrics can compete with other fabrics, both the grower and manufacturer can be priced out of the market.

Keep in mind always that rayon and synthetics are in competitive position. Neither does the spinner of synthetics pay for these impurities found in cotton. But back to machine picked cotton. Anything done by the producers of cotton fibers or the ginner to improve cleaning, ginning, packaging, will be an aid and value to the spinner. Opening and cleaning cotton is one of the main problems facing the mill man today.

In conclusion: cotton has been called king by politicians, business men, poets, authors, but remember this—as someone else has also said, "Uneasy rests the head that wears the crown." To be king, the king must rule. Not to rule means loss of a crown, and generally loss of a crown means banishment, or at worst execution! The fate of the king lies in the hands of such men as here assembled, men at work in the field of genetics, agronomy, in laboratories, the machine shops and the mills—all working to a common end —the preservation of the rule of the king of fibers that bends not a knee to any other ruler of a minor fiber clan.

Selecting Quality Cotton For The Mill

(Continued from Page 31) also must be reasonable. The planters are an important segment of our purchasing power, therefore, for selfish reasons alone, cheap raw material must not be gained by returning the planter to a lower standard of living. It is by means of high yielding, quick maturing varieties, mechanical cultivation and mechanical harvesting that costs and prices can and must be reduced.

Much has been said as to the premium that mills will be willing to pay to limit cotton quality variables by means of lint identification. With an intention of being of service, and not with an intention of hurting anyone's feelings on this subject, we must be absolutely frank about this matter.

The manufacturers of synthetic fibers perform this service to a greater degree than is requested by the cotton manufacturers. It is furnished as a matter of helpfulness to stimulate the use of synthetic fibers. No charge is made for this service. Why should a similar service on cotton be furnished

only at additional cost? Too few here apparently realize the threat that confronts cotton or otherwise such disregard of price would not be so evident.

The manufacturers are interested in this program from sentiment and because the economy of our Southland is at stake. Whether cotton can remain competitive, or whether it is to pass from the economic scene, is not so important to the manufacturer as to the breeder, the planter and the ginner. We can easily convert our machinery to synthetics as well as cotton. Therefore, do not mistake our interest for unlimited charity or willingness to undergo financial depletion for a sentimental cause. It cotton is priced out of the market, we all shall suffer, but you so much more so than we. Let us stop considering each and every possibility of increasing prices. Rather, let us all concentrate on reducing costs and prices where the mass of people can buy cotton products at a price competitive with the synthetics.

We endorse the program of the planters and the breeders in reducing costs by breeding and mechanization. We caution the breeders, however, not to adapt their varieties to mechanization at the expense of qualities so essential to economical manufacturing. We also caution the ginners to avoid damage to mechanized cottons.

At this time mills are setting up their own laboratories for fiber testing and quality control work. We shall need, however, some agency to make preliminary tests as to quality of cottons in the fall when cotton is being harvested and merchandized. This agency should also provide information as to the location where certain varieties are grown, and the stocks of each variety that are available.

We must regretfully admit that we, as manufacturers and buyers of raw cotton, have failed to advise you breeders as to our requirements for precision and low-cost manufacturing. I hope, before long, we can intelligently determine and advise you of the specific cotton characteristics we need. In our corporation, we are working diligently toward this end. I feel sure that the co-operation in this program of all concerned must lead to gratifying and profitable results for us all.

Rayon Shipments Show Slight Gain

Rayon shipments in August totaled 81,500,000 pounds, an increase of one per cent over the preceding month and 12½ per cent over the corresponding month in 1946, according to the September *Rayon Organon*, the statistical bulletin of the Textile Economics Bureau, Inc. Filament yarn shipments totalling 62,900,000 pounds were 0.8 per cent above the preceding month and staple shipments amounting to 18,600,000 pounds were 1.1 per cent greater.

Although the importation of rayon staple from abroad in the January through July period of 1947, amounting to 26,291,000 pounds, exceeds imports in a similar seven-month period in 1939 which was a record year, the level of imports has declined appreciably since May. The decline, according to the *Organon*, may be attributed to the increased output of domestic staple, and the larger inventories of foreign staple now on hand.

The quick and efficient conversion by cotton mills at the beginning of World War II from peacetime to wartime production, is regarded as one of the outstanding industrial feats in American history.

Create Rich Market For Textile Items

A multi-million dollar market for textile items will be created by a wide-scale repair and refurnishing program being launched by the nation's larger hotels, according to a survey made by the C. C. Chapelle Co. for *The Hotel Monthly*, trade publication. More than 59 million dollars will be spent for carpeting alone. Lobbies and corridors will be recarpeted at a cost of $8,907,000 while $2,137,000 will be spent for carpets for dining rooms and cocktail lounges, and $48,782,000 will be used for new carpets in guest rooms. The hotels will spend an average of $18,000 for guest room carpeting.

Draperies will be purchased by 72 per cent of the hotels renovating guest rooms, and they will spend $6,647,000 for them. This item will require an estimated average of from $10.50 to $12 each room. A $15,898,000 market will be created for linens. The smaller hotels of from 100 to 199 rooms will make an average investment of $1,000 for tablecloths and napkins in their food and beverage departments, ranging upward to $5,000 in the largest hotels, those of more than 500 rooms. A total of $2,828,000 will be spent for tablecloths and linens alone. In the guest rooms, the smaller hotels will spend an average of $15.75 per room, ranging to $27.25 in the largest hotels. Linen needs will include sheets and pillow cases type 1-40, bath towels double Terry 20 by 40, and face towels 17 by 32. Bath mats also will be greatly needed. New pillows will be required at a cost of $1,865,000, with expenditures ranging from $4 to $8 per room.

Blankets will be bought to the extent of $6,363,000, with hotels of from 100 to 399 rooms requiring two part-wool blankets per room, and those with more than 400 rooms in the market for pure wool ones. An additional 50 per cent will be required for double occupancy. A $3,829,000 market for bedspreads will include expenditures figured at from $4 to $6 per room. The smaller hotels will be in the market for chenille spreads, and the larger ones for monogrammed chenille spreads. The huge hotel rehabilitation program will extend over a period of three years, with completion hinged on availability of labor and materials and ability of manufacturers to fill demands of the great market for materials and equipment that will be created.

Burlington Mills Corp. Reports Earnings

Consolidated net sales of $163,591,875 and estimated net profit after taxes of $18,229,544 for the nine months ended June 28, 1947, were reported Aug. 14 by Burlington Mills Corp., Greensboro, N. C. Net profit after providing for preferred dividends amounted to $5.01 per common share. These figures compare with sales of $102,961,975 and net earnings of $8,635,436, or $2.27 per common share, for the nine months ended June 29, 1946.

Profit rates for the quarter ended June 28, 1947, were somewhat reduced from those of the first six months of the fiscal year. This reduction was primarily due to wage increases which were put through in February, advanced prices of rayon effective March 1, and price reductions made on several of the lines offered by the company.

Textile Associations Plan Meetings

Charlotte and Asheville, N. C., will be the scene of three important textile association meetings within the next few weeks. On Oct. 2 the Southern Combed Yarn Spinners Association will hold its 22nd annual meeting in Charlotte. The following week, Oct. 9-10, the North Carolina Cotton Manufacturers Association will gather at the Grove Park Inn, Asheville, for its 41st annual meeting, first real post-war meeting of the group. Nov. 18 the scene shifts back to Charlotte again where the Carded Yarn Association, representing 2,000,000 spindles in 13 states, holds its annual meeting.

Secretary of the Army Kenneth C. Royall, a native North Carolinian, will be guest speaker at the meeting of the Southern Combed Yarn Spinners Association and will be introduced by U. S. Senator Clyde R. Hoey of North Carolina. A luncheon meeting of the group will be addressed by Dr. William P. Jacobs, president of the American Cotton Manufacturers Association, and Frank Constangy, labor relations attorney of Atlanta, Ga. A forecast forum in the afternoon will be under the direction of Dr. Claudius T. Murchison of New York, president of the Cotton-Textile Institute, and other members of the forum will be Roy A. Cheney, president of the Underwear Institute; Ray Bell of New York, president of the Association of Cotton Textile Merchants; Frank E. Slack of Philadelphia, president of the Association of Cotton Yarn Distributors; G. R. Bodell of Providence, R. I., president of the American Lace Manufacturers Association; N. S. W. Vanderhoef, president of the Textile Export Association of the United States; and Josef Pollack or David Snyder of the Thread Institute, Inc. Association President A. C. Lineberger, Jr., of Belmont, N. C., will preside over the meeting and directors and officers for the coming year will be elected.

The meeting of the North Carolina Cotton Manufacturers Association will be tuned mainly to fun and good fellowship with business transactions at a minimum. Following a meeting of directors on Oct. 9, a business meeting will be held the following day with Dave Hall, president of the group, as speaker. The remainder of the program will be given over to recreation including golf, a skeet shoot, dancing, and tours in the beautiful mountain area around Asheville. Members of the Carded Yarn Association meeting in Charlotte Nov. 18 will have as their principal speakers Dr. Claudius T. Murchison and U. S. Senator Clyde R. Hoey of North Carolina. New officers for the group and seven members of the board of directors will be elected by the assembled spinners at this meeting. E. N. Brower of Rockfish-Mebane Yarn Mills, Hope Mills, N. C., is chairman of the board of the association. Harvey W. Moore of Brown Mfg. Co., Concord, N. C., is vice-president and Owen Fitzsimons of Charlotte is president of the group.

Another textile meeting of note was scheduled Sept. 18 at the Hotel Pennsylvania in New York City where a textile symposium was scheduled for the 112th national meeting of the American Chemical Society. Dr. Milton Harris of Milton Harris Associates, chairman of division of cellulose chemistry of the A. C. S., was to preside over the symposium at which crease-resistant finishes was to be discussed along with detergency and other topics.

The next general meeting of the Textile Operating Executives of Georgia is scheduled Sept. 27 to be held in the chemistry building of the Georgia School of Technology.

Atlanta. Slashing and weaving questions will be discussed with B. W. Whorton leading the slashing section and H. M. Jackson handling the weaving. District councils of the American Society for Testing Materials in Detroit, Philadelphia and New York have scheduled technical sessions in October to which are invited all engineers; technical people and others interested. The Detroit meeting will be held Oct. 8 at the Rackham Memorial Building; the Philadelphia meeting will be held Oct. 16 at the Benjamin Franklin Hotel, and the New York gathering will be held Oct. 30 at the Engineering Societies' Building. Petroleum products as related to automotive uses will be discussed at the Detroit meeting; flammability of textiles and new textile fibers and products will provide the theme for the Philadelphia group and silicones will be discussed at the New York meeting.

Leave For India To Survey Textile Plants

Samuel B. Lincoln, vice-president of Lockwood Greene Engineers, Inc., New York City, accompanied by Nathaniel M. Mitchell, president of Barnes Textile Associates, Inc., of Boston, sailed Sept. 3 for England on their way to India in connection with a joint project for Tata Sons, Ltd., Bombay. The project involves a complete economic and operating study of the four large textile mills owned by Tata Industries, Ltd., with the view of adopting most modern methods and equipment wherever possible. Every step in the mill operations including power development, work assignments and cost methods will be covered in the study. The study will also be made the basis for a program designed to provide considerably more cotton goods for India's people. At the present time, Tata Industries, Ltd., owns and operates 300,000 spindles and about 7,000 looms.

Sirrine Will Provides Student Aid Plan

The will of Joseph E. Sirrine, head of J. E. Sirrine & Co. of Greenville, S. C., and widely known in the textile industry, left the income from the bulk of his estate, expected to amount to several million dollars, to be divided equally between his brother, William G. Sirrine, and his niece, Jane Cothran. After the deaths of Mr. and Mrs. William G. Sirrine, and if Miss Cothran dies without children or grandchildren, the estate would be set up as a perpetual memorial to Mr. and Mrs. George W. Sirrine, parents of the two brothers, to help selected Greenville high school students complete their education. The First National Bank of Greenville is trustee of the estate, and the will provides that if the estate becomes a memorial fund the board of trustees of the city schools shall select students to receive scholarships for higher education.

Tertile Square Club To Honor Reimer

The Textile Square Club will mark its 20th anniversary Nov. 17 at a dinner in the main ballroom of the Hotel Astor in New York City. The occasion will also be employed to pay honor to Harry Reimer, editor of the *Daily News Record*, who has been president of the club for the past 17 years. Honorary chairmen of the dinner are William Fraser of J. P. Stevens & Co.; John Hughlett, Dan River Mills, Inc.; Walter Galley, Parker-Wilder & Co., Inc.; A. W. Rydstrom, Cone Export & Commission Co.; A. H. Rullwinkel, L. Bachman Co., and Jack Seaman of Jack Seaman Co.

Reports Describe German Textile Machines

A large variety of German textile machines for drying silk, processing rayon, dyeing, embossing, braiding, spinning, and several other types are described in 12 reports available from the Office of Technical Services, Department of Commerce. The reports were prepared by British and American investigators who made a thorough study of the German textile industry after the cessation of hostilities in 1945 and 1946. Photostat and microfilm copies of each report are on sale by O. T. S. However, all of the reports have been consolidated in a single volume by Mapleton House, publishers, Brooklyn, N. Y., on sale at $8 a copy. A brief description of each of the 12 reports including the O. T. S. price for photostat and microfilm copies follows:

PB-34036 *(Textile Machinery for Drying Silk Rayon and Cotton in Piece Form;* photostat, $4; microfilm, $1; a British report) discusses briefly the operations of six German textile machinery manufacturers, and contains a detailed description of a hot air drying machine for pulp in endless sheets, both chemical and mechanical, manufactured by H. Krantz at Aachen, Germany. Other Kranz machines described include a wool drying machine, a sizing and squeezing machine, a rinsing, steaming and suction device, a warping machine, and others. Photographs are included. PB-19679 *(Processing of Spun Rayon in Germany;* photostat, $2; microfilm, 50 cents; a British report) discusses the operation of seven German spinning and weaving plants, and describes in detail the research findings of the Zellewolle Lehrspinnerei research laboratory and pilot plant at Denkendorf established to guide the spun rayon industry in Germany. The research covered studies of humidification, temperature, storage of fibers, bale openers, mixture chambers, identification tints, picking, carding, drawing and spinning. PB-28750 *(Textile Finishing Machinery for Cotton and Rayon Piece Goods and Jacquard Machines for Looms Weaving Finished Cloth;* photostat, $2; microfilm, $1; a British report) contains general descriptions of several German firms, and makes note particularly of a spray damping machine for silk fabrics investigated at a plant in Krefeld. The purpose of the machine was to damp silk fabrics evenly with water, soap and water, or filling. A drawing of the machine is appended. Super elastic cotton bowls, and Jacquard machines for weaving borders were also found of considerable interest to the authors of this report. PB-28749 *(Loom Making in Germany;* photostat, $2; microfilm, $1; a British report) describes visits to seven firms in the American and British occupation zones. The investigators noted many types of looms which they thought should be evacuated to Britain for further study. Pictures of some of the looms are icluded.

PB-25592 *(German Textile Dyeing, Drying and Finishing Engineers;* photostat, $1; microfilm, $1; a British report) describes two machines of "outstanding interest." One is a steaming machine for steaming and conditioning woven material. The other is a decatizing machine with a heated drying drum located midway between one decatizing roller and the other for drying the wrapper in its passage between the two rolls. Several other machines of general interest are also described. PB-13758 *(Producing Durable Embossing on Rayons and a Machine for Coloring Embossed Fabrics;* photostat, $1; microfilm, 50 cents) describes an I. G. Farbenindustrie method for producing wash-fast embossings on spun rayon which were unusually durable and withstood

several washings. The report also describes an embossing calendar machine which prints a fitted color effect at the same time the goods are being embossed. PB-19683 *(German Circular Lace Braiding Machine;* photostat, $1; microfilm, 50 cents; a British report) reports on two German firms making circular braiding machines, and contains a detailed description of a jacquard machine introduced by the Wilhelm Revising firm in 1942. Circular lace braiding machines are almost entirely a German development, the report states. PB-6360 *(Deutsche Spinnereimachinenbau;* photostat, $1; microfilm, 50 cents; a British report) describes the products of a spinning machinery manufacturer at Ingolstadt, Germany, including cotton cards, cotton drawing frame, cotton roving frame and ring spinning frame. Some novel features of the machine are noted.

PB-2466 *(Manufacture of Non-Woven or Compressed Woolen Felts in Germany;* photostat, $1; microfilm, 50 cents) is a summary account of the raw materials, manufacturing processes, and industry standards and costs for 14 German firms making non-woven felt in sheets, wheels and rolls. PB-3881 *(German Pile Fabrics for Upholstery and Wearing Apparel;* photostat, $1; microfilm, 50 cents. During the war the German pile fabric industry used synthetic yarns, chiefly acetate and viscose rayon, almost exclusively, this report states. Preparatory processes before weaving, warp and filling preparation, weaving, and inspection, mending and measuring techniques are discussed. The only novel features of the pile fabric industry observed by the investigators were two looms, a freize and cut pile wire loom and a double shuttle plush loom. The report contains brief descriptions of both looms. PB-1632 *(Punching of Spinnerets, I. G. Farben, Munich;* photostat, $1; microfilm, 50 cents) gives a detailed account of the punching of holes in tantalum spinnerets. PB-18937 *(German Shuttle Block Industry;* photostat, $2; microfilm, 50 cents; a British report) deals with German techniques for compressing wood for textile shuttles. Several illustrative photos from German catalogues are appended.

Orders for photostat or microfilm copies of any of the above reports should be addressed to Office of Technical Services, Department of Commerce, Washington 25, D. C., and should be accompanied by check or money order payable to the Treasurer of the United States. Orders for the consolidated volume containing all the reports should be addressed to Mapleton House, Publishers, 5415 17th Avenue, Brooklyn, N. Y.

Clemson School Of Textiles Is Growing

The textile school of Clemson College, Clemson, S. C., is expected to rank as one of the world's best after plans are completed for the use of a $1,000,000 contribution made by the textile industries of South Carolina to improve the textile faculty and educational program at Clemson. Dr. Hugh Brown, head of the textile department, has announced that one-fourth of a $100,000 order of machinery and equipment has been delivered and will be in use this fall. The total shipment has been on order for 18 months.

The J. E. Sirrine Textile Foundation is working out plans for use of the million dollar grant. Approximately 550 students are expected to enroll in the school of textiles this fall. Although the enrollment will be about the same as last year, the teaching staff has been increased 25 per cent over the 1946-47 session.

Cotton Goods Market

No change upon the present position of the cotton gray goods market is anticipated by Worth Street circles as a result of the issuance of the Department of Agriculture's forecast of an 11,849,000-bale cotton crop for 1947.

The actions of cotton are entirely apart from that of the gray fabric market, trade observers in New York City declare, and as far as Worth Street is concerned it still remains a matter of supply and demand.

Fine goods quotations have been firm with no weakening of the market seen. Some buyers declare that the quality of present offerings are not up to those of pre-war days, but with the present scarcity of cloth buyers cannot afford to be choosy. However, once there is any weakening then complaints can be expected from buyers with an increase in the number of cases being brought to arbitration, it is predicted.

At the present time the fine gray cloth market is greatly restricted with these cloths available only from a few sources and in small quantities, it is pointed out.

Selling of wide industrial cotton cloths remains on a restricted basis with buyers continuing to move only with the greatest caution. In most cases contracts have been made on production of various goods right through the year though output is still available for November-December.

Selling in routine, day to day transactions with no unusual developments continues in the duck and wide cotton goods markets. The majority of duck mills are sold through October-November and on wide fabrics, generally through the first quarter.

In the attempt to decrease inventories, industrial cloth users are not going far ahead. Practically all of them refuse to commit themselves more than 60 days, in some cases only 30. However, one house points out, this does not mean that business is bad. As long as its mills are sold two to three months ahead, it declares, there is nothing to worry about.

A total of 2,333,000,000 yards of cotton broad woven goods was produced during the second quarter of 1947, 141,000,000 yards or six per cent less than the production in the first quarter, the Census Bureau announced this month.

Of the 394,000 looms in place on June 28, 1947, there were 378,000 active on the first shift; 355,000, on the second; and 170,000 on the third. A total of 492,000,000 loom hours were operated, which was one per cent above the first quarter 1947.

The total yarn consumed in the production of cotton broad woven goods and tire fabrics amounted to 906,000,000 pounds, of which 838,000,000 pounds were cotton, 57,000,000 pounds rayon, and 11,000,000 pounds other than cotton or rayon yarns.

Cotton Yarns Market

A United States cotton crop of 11,849,000 bales is now forecast by the Bureau of Agricultural Economics, based on information as of Sept. 1. Favorable weather east of the Mississippi river have offset drought and high temperatures in the western part of the belt and production prospects remain practically the same as indicated on Aug. 1. The 1947 crop is expected to be around 3.2 million bales larger than last year's small production, but nearly 550,000 bales less than the 1936-45 average.

Abandonment of cotton in cultivation July 1 is indicated at 1.2 per cent, compared with 3.2 per cent in 1946 and 1.9 per cent for the ten-year average. This would leave 21,143,000 acres for harvest—an increase of around 3.5 million acres over last year. Lint yield per acre, computed at 269.0 pounds, is 33.7 pounds more than the 1946 yield and 18.4 pounds over the average.

The Bureau of the Census reports 647,391 bales of cotton ginned from the 1947 crop prior to Sept. 1, compared with 532,664 bales for 1946 and 461,896 for 1945.

Sale yarn shippers are likely to seize on the next general rise in freight rates to shift to customers the entire burden of transportation costs, according to Philadelphia distributors, who point out that a few of the larger sources already have adopted this policy. Other spinners, however, remain willing to pay up to an average of one cent a pound with the customers rebating any freight costs exceeding this.

The rebate feature is cited as a nuisance both to shippers and consignees, especially where deliveries are small and frequent. Over-all effect of continued rise in delivery costs, it is stated, is to give manufacturers located in the proximity of large cotton mill centers a more definite advantage over customers located at distant points.

Knitting yarns have been receiving major buyer attention recently, some of the larger cotton yarn distributors report. Encouraging reports of stepped-up production are coming from users in the weaving trades but this has not been reflected in expanded buying of weaving yarns, it is said.

Mercerized cotton yarn prices are holding firm, distributors indicate, with quotations from prices buyers have reported for some weeks now. While during late spring and summer, activity in mercerized yarns was dull, market observers say they now see signs of a definite improvement, which is expected to be more evident late this month or in October.

SOUTHERN SOURCES OF SUPPLY For Equipment, Parts, Material, Service

Following are the addresses of Southern plants, warehouses, offices, and representatives of manufacturers of textile equipment and supplies who advertise regularly in TEXTILE BULLETIN. We realize that operating executives are frequently in urgent need of information, service, equipment, parts and materials, and believe this guide will prove of real value to our subscribers.

AIR ENGINEERING CO., 115 W. Catherine St., Charlotte, N. C. Sou. Reprs.: E. J. Severs, C. H. White.

AKRON BELTING CO., THE, Akron, O. Sou. Reps.: Ralph Gossett and Wm. J. Moore, 111 Augusta St., Greenville, S. C.; The Akron Belting Co., 406 S. 2nd St., Memphis, Tenn.; Oliver D. Landis, N. C. Agent, 718 Queens Rd., Charlotte 4, N. C.

ALLEN CO., THE, 440 River Road, New Bedford, Mass. Sou. Repr.: L. E. Wooten, Fort Mill, S. C.

AMERICAN CYANAMID CO., Industrial Chemicals Div., 30 Rockefeller Plaza, New York City. Sou. Office and Warehouse, Wilkinson Blvd., Charlotte, N. C., Hugh Puckett, Sou. District Mgr. Reprs.: John D. Hunter, Paul F. Haddock, R. S. Meade, Q. M. Rhodes, Charlotte Office; E. J. Adams, 1404 S. 22nd St., Birmingham, Ala.; Jack B. Button, 1409 Garland Drive, Greensboro, N. C.; C. B. Suttle, Jr., 423 Clairmont Ave., Decatur, Ga.; C. P. Kirchen, 10 South St., Mobile, Ala.; T. O. McDonald, 531 Masonic Temple Bldg., New Orleans, La.

AMERICAN MOISTENING CO., Providence, R. I. Sou. Plants, Charlotte, N. C., and Atlanta, Ga.

AMERICAN TEXTILE SHEET METAL WORKS, Dallas, N. C. L. W. Ingle, owner.

AMERICAN VISCOSE CO., 350 Fifth Ave., New York City. Sou. Office, Johnston Bldg., Charlotte, N. C., Harry L. Dalton, Mgr.

ARMOUR & CO., Armour Soap Works, 1355 West 31st St., Chicago 9, Ill. Dist. Divisional Offices: Armour & Co., P. O. Box 2664, Birmingham, Ala.; Armour & Co., 1816 Liberty Life Bldg., Charlotte, N. C.; Armour & Co., Jacksonville, Fla.; Armour & Co., Room 601, Chesapeake & Ohio Bldg., Huntington, W. Va.

ARMSTRONG CORK CO., Industrial Div., Textile Products Section, Lancaster, Pa. Sou. Office, 33 Norwood Place, Greenville, S. C., J. V. Ashley, Sou. Dist. Mgr.

ARNOLD, HOFFMAN & CO., INC., Providence, R. I. Sou. Headquarters, 2130 N. Tryon St., Charlotte, N. C., W. Chester Cobb, Sou. Sales Mgr. Technical Service Men: Reid Tull, 116 W. Thomas St., Salisbury, N. C., Phone 1497-J; W. L. Mills, 803 Magnolia St., Greensboro, N. C., Phone 3-6282; Philip L. Lavoie, 19 Polk St., Sylacauga, Ala.; John H. Graham, P. O. Box 904, Greenville, S. C., Phone County 7614; Harry Green, 1934 Dimon St., Columbus, Ga., Phone 3-9727. Warehouse and Sou. Mfg. Plant, 2130 N. Tryon St., Charlotte, N. C.

ASHWORTH BROS., INC., Charlotte, N. C. Sou. Offices, 44-A Norwood Place, Greenville, S. C.; 215 Central Ave., S. W., Atlanta, Ga.; Texas Rep.: Textile Supply Co., Dallas, Tex.

BAHNSON CO., THE, 1001 Marshall St., Winston-Salem, N. C.; 886 Drewery St., Atlanta, Ga.

BARBER-COLEMAN CO., Rockford, Ill. Sou. Office, 31 W. McBee Ave., Greenville, S. C., J. H. Spencer, Mgr.

BARKLEY MACHINE WORKS, Gastonia, N. C.

BARNES TEXTILE ASSOCIATES, INC., 10 High St., Boston, Mass. Sou. Office, 318 Montgomery Bldg., Spartanburg, S. C.

BECCO SALES CORP., Buffalo, N. Y. Sou. Mgr., D. S. Quern, P. O. Box 183, Charlotte, N. C Sou. Reprs.: J. D. Quern, 1930 Harris Road, Charlotte, N. C.; J. R. Hopkins, 403 Diggs Blvd., Warner Robbins, Ga.

BEST & CO., INC., EDWARD H., Boston, Mass. Sou. Rep.: W. C. Hames, 185 Pinecrest Ave., Decatur, Ga., Phone Dearborn 5974; Ralph Gossett, 111 Augusta St., Greenville, S. C., Phone 150; William J. Moore, 1 Pendleton St., Greenville, S. C.

BLACKMAN-UHLER CO., 180 Erell St., Spartanburg, S.C. P. C. Blackman, Jr., W. B. Uhler, Paul C. Thomas, Atlanta, Ga. John C. Turner, Box 916; New England, Frank T. Seery & Co., Inc., Melrose, Mass.

BOND CO., CHAS., 617 Arch St., Philadelphia, Pa. Sou. Reps.: Harold C. Smith, Greenville, S. C.; J. Ernest Brecht, P. O. Box 2023, Atlanta 1, Ga.

BORNE SCRYMSER CO., Works and Offices, 632 S. Front St., Elizabeth, N. J. Warehouse, 815 W. Morehead St., Charlotte, N. C. Sou. Mgr.: Russell C. Young; Reprs.: John Ferguson, LaGrange, Ga.; Willard E. Smith, Charlotte, N. C.

BROOKLY FIBRE BROOM CO., Brooklyn, N. Y. Sou. Repr.: John Batson, Box 841, Greenville, S. C.

BROWN CO., THE DAVID, Lawrence, Mass. Sou. Reps.: Greenville, S. C., Ralph Gossett and Wm. J. Moore; Griffin, Ga., Belton C. Plowden; Dallas, Tex., Russell A. Singleton Co., Inc.; Gastonia, N. C., Gastonia Mill Supply Co.; Spartanburg, S. C., Montgomery & Crawford.

BURKART-SCHIER CHEMICAL CO., Chattanooga, Tenn. Plants: Chattanooga-Knoxville-Nashville; Sales and Service: C. A. Schier, A. S. Burkart, W. A. Bentel, W. J. Kelly, Jr., George S. McCarty, A. J. Kelly, D. H. Gunther, care of Burkart-Schier Chemical Co., Chattanooga, Tenn.; H. V. Wells, care of Burkart-Schier Chemical Co., Nashville, Tenn.; Lawrence Newman, care of Burkart-Schier Chemical Co., Knoxville, Tenn.; James A. Brittain, 3526 Cliff Road, Birmingham, Ala.; Nelson A. Fisher, 629 Hillside Ave., Glen Ellyn, Chicago, Ill.; Byrd Miller, Woodside Bldg., Greenville, S. C.

BUTTERWORTH & SONS CO., H. W., Philadelphia, Pa. Sou. Rep.: J. H. Zahn, Johnston Bldg., Charlotte, N. C.

CAROLINA BELTING CO., 26 Augusta St., Greenville, S. C.

CAROLINA INDUSTRIAL FILMS, 403 Liberty Life Bldg., Charlotte 2, N. C. A. H. Sterling, Director of Sales.

CAROLINA MACHINERY CO., Steel Creek Rd., P. O. Box 1922, Charlotte, N. C.

CAROLINA REFRACTORIES CO., Hartsville, S. C.

CARTER TRAVELER CO., Gastonia, N. C., Division of A. B. Carter, Inc., Gastonia, N. C. Sou. Rep.: R. D. Hughes Sales Co., 1812 S. Main St., Dallas, Tex.

CHANDLER MACHINERY CO., 120 Houston St., N.E., Atlanta, Ga.

CHARLOTTE CHEMICAL LABORATORIES, INC., Charlotte, N. C. Peter S. Gilchrist, Jr., Rep.

CHARLOTTE LEATHER BELTING CO., 314 E. 6th St., Charlotte, N. C. Sales Reps.: J. E. Beattie, P. O. Box 82, Greenville, S. C.; J. L. Harkey and P. L. Pindell, Charlotte Office.

CIBA CO., INC., Greenwich and Morton Sts., New York City. Sou. Offices and Warehouses, Charlotte, N. C.

CLINTON INDUSTRIES, INC., Clinton, Iowa. R. C. Rau, S. E. Mgr., Clinton Sales Co., Inc., 325 Western Union Bldg., Atlanta 3, Ga., Tel. Cypress 1127; Boyce L. Estes, 343 Mimosa Dr., Decatur, Ga. Sou. Reprs.: Grady Gilbert, Box 342, Phone 3192, Concord, N. C.; Clinton Sales Co., Inc., Geo. B. Moore, Box 481, Phone 822, Spartanburg, S. C. Jack M. Gibson, 900 Woodside Bldg., Phone 3713, Greenville, S. C.; Boyce L. Estes, Box 132, LaGrange, Ga. Stocks carried at Carolina Transfer & Storage Co., Charlotte, N. C.; Consolidated Brokerage Co., Greenville, S. C.; Bonded Service Warehouse, Atlanta, Ga.; Industrial Chemicals, Roanoke Rapids, N. C.

COLE MFG. CO., R. D., Newnan, Ga.

COMMERCIAL FACTORS CORP., 2 Park Ave., New York, N. Y.

CORN PRODUCTS SALES CO., 17 Battery Place, New York City. Corn Products Sales Co., Southeastern Bldg., Greensboro, N. C., W. Rouse Joyner, Mgr.; Corn Products Sales Co., Montgomery Bldg., Spartanburg, S. C.; Corn Products Sales Co., Woodside Bldg., Greenville, S. C., J. Allen Simpson, Mgr.; Corn Products Sales Co. (Mill and Paper Starch Div.), Hurt Bldg., Atlanta, Ga., J. Cantey Alexander, Mgr.; Corn Products Sales Co., Comer Bldg., Birmingham, Ala., L. Hawley Kelly, Mgr. Stocks carried at convenient points.

CRABB & CO., WILLIAM, 303 Third Ave., Newark, N. J.

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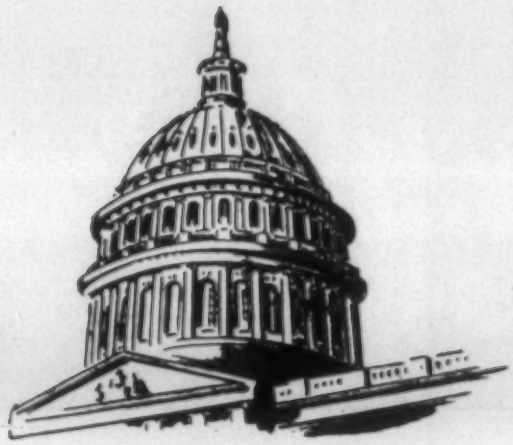

Union leaders are retreating from their threats to boycott the Taft-Hartley Act and N. L. R. B., and falling back on plans to protect themselves from a mounting volume of damage suits and to find a substitute for the banned closed shop. Suits already filed ask for an aggregate of more than $1,200,000, and unions see an increasing threat to their treasuries. Where employers agree not to sue they are insisting on other primary concessions, including the ban on the closed shop and the right to fire workers who engage in wildcat strikes.

With the approach of the deadline of Sept. 25, both C. I. O. and A. F. of L. unions free of communist leadership are expected to file last-minute compliances. Most of them will make qualifying statements that they are opposed to the law, and act only to protect interests of their members. Full impact of the law will be felt next year when existing wage contracts begin to expire.

C. I. O. resistance centers in the fact that many of its union officials are known communists or communist affiliates. The law denies use of its facilities to unions with such officers, and this means they must oust their communist leaders or remain outside of the law. Both A. F. of L. and independent unions will gain a heavy advantage through failure of any union's officials to sign anti-communist affidavits.

About half of the C. I. O. unions have the choice of cleaning out the communists or losing the law's benefits and protection. For them the implication is clear—clean house or no employer will be under obligation to deal with them in any way. Faced with this stern fact, some of them hope N. L. R. B. will be easy and flexible in its interpretations in the matter.

Public apathy has given a discouraging response to C. I. O. efforts to arouse sympathy for its plight. Internally, union officers are not meeting with success in whipping up resistance in union ranks unless there is a strong infiltration of communists. C. I. O. is coming to the point where it must throw overboard its communist leaders, or lose some of its most important groups.

The really hot spot will be reached when a union with communist officers is charged with violating its contract, and persons injured by its acts, or acts of its officers, begin to file suits for damages. Whether C. I. O. wills it or not, its communist officials are due to be unhorsed as the law gets into full operation.

Dan Tobin, head of the A. F. of L. union of 600,000 teamsters, has led the way among big unions in filing acceptance of the law, and in doing so, delivered a rebuke to John L. Lewis, who opposes acceptance. Tobin said "we are pleased the government has taken this stand to oust communists, but it may have come too late, for some unions are dominated by them."

Lewis has set up a strong wedge of resistance to compliance by A. F. of L. unions, and stands almost alone among them in his opposition. He's insisting on defiance of the law while hostile elements call him "Gromyko," and say his action will open the way for wholesale raids by independent unions through N. L. R. B. elections.

Much of C. I. O. hostility arises in the requirement to make public its finances. The A. F. of L. issues a statement each year showing its per capita payments, which indicates its aggregate membership. C. I. O. does not publish its per capita payments, which would show the exact number of its members.

N. L. R. B. is being flooded with questions by individual workers as to their rights under the new law. More than 100,000 queries have been filed. Foremost is the question whether the act is a "slave law," and does deprive workers of any rights they have enjoyed. The board is answering in the negative, and pointing out that workers can complain directly to it about unfair practices by unions or employers regardless of whether their unions are complying with the law.

While William Green continues to describe the act as a "slave law," some A. F. of L. unions are gaining under it some of the best wage contracts they have ever had. No legitimate complaints have been made that it is unjustly bearing down

on workers. Green complained that all members of A. F. of L. executive board must sign anti-communist affidavits under the ruling of General Counsel Denham, but that C. I. O. is not required to do the same thing. The difference is that all A. F. of L. board members are officers in other big unions, which is not true of C. I. O. board members.

One short provision of three lines in the new law has led to the settlement of 31 strikes in six weeks. This clause provides for a secret ballot among employees to accept or reject an employer's last offer to settle a dispute. In 25 elections the last offer has been rejected. Results in 25 other elections have not been announced.

Union leaders who have planned to make the law a primary issue in the 1948 campaign are not getting much encouragement from the administration. Observers for the President have been unable to find substantial sentiment in any segment of voters, even in the rank and file of unions, to repeal the law. Outcome of special elections where the law was made an issue indicate that voters are not impressed with tirades against it, and that the union drive is off to a bad start. Another factor is that legislators who voted for it are too anxious to seize upon it as an issue.

While A. F. of L. says it will "fight labor's enemies" in Congress, it will not team up with C. I. O. in joint action to do so. Many A. F. of L. officials attribute the "objectionable" provisions of the new law to the presence of "known communists" in C. I. O.'s official ranks, and say that joint action would "tar A. F. of L. with the same stick."

Officials of C. I. O. textile unions in the Paterson-Passaic area say they do not like the law, but they will comply with it. They say they have the "most harmonious relations" with employers in their history, and do not propose to disturb this state of affairs, although they do not like the compliance provisions.

The Department of Justice has quietly launched a relentless drive to remove alien communist leaders from this country's labor movement. Two alien officers have been arrested and face deportation. The arrest of others is impending. The department is trying to move without undue publicity or notoriety.

Top leaders in A. F. of L. councils, including William Hutcheson and Dan Tobin, are putting pressure on Green to continue as president, and stand for re-election in October. Green is told it is poor strategy to retire when labor faces its biggest battle against the labor law. In reality, they do not want a show-down with Lewis as Green's successor.

C. I. O. steel workers are asking government officials to jog up producers to increase the steel output. The present rate of production, said Otis Brubaker for the union, is geared to immediate needs, with price secondary, and does not meet needs of "a full employment domestic economy." He said he is not imputing a conspiracy to preserve scarcity.

Soft coal production has fallen 1,000,000 tons a week since the Lewis-Big Steel wage pact went into effect. The reduction is attributed to the shorter work-week, with no corresponding increase in hourly output, and a penchant of miners with more pay to take more time off from work.

N. L. R. B. has ruled that when a plant superintendent told employees he believed "the present efficient service you give is not possible with a union," he was entirely within his rights, and did not threaten to penalize workers if they joined the union. This ruling is the first under the new law's provision on an employer's right to discuss union matters with his workers.

Another try at tax reduction is under discussion among House leaders. The next tax bill may not slash so deeply into income bracket levies, but it will be weighted with provisions to increase individual exemptions and ease other taxes in sufficient volume to command a two-thirds majority in both branches. It will probably be more unpalatable to the administration than was either of the two vetoed bills this year.

Senate majority leaders have been called into quiet conference this month with administration spokesmen for a "frank revelation" of Great Britain's plight. A conference of leaders is scheduled for Sept. 20, when an informal decision will be sought as to how far Congress will be asked to extend additional aid. The matter may lead to a call for a special session in October or November.

This government is talking more forcibly to British leaders than at any time in two generations. It is unwilling to further underwrite Labor government experiments in socialism and nationalization, and demands an exact budget on future expenditures. The British crisis is more in the nature of an impending crack-up, comparable to the German crack-up in the '20s.

Congressional committees who have visited England this summer are sending back reports of such serious import that they are carefully guarded from publicity. Acting Secretary of State Lovett acted with full knowledge when he cautiously intimated a special session of Congress is needed. Much of the difficulty is attributed to the recalcitrance and excessive demands of British labor unions, who if they understand the gravity of matters, it is felt, must be acting with communist objectives.

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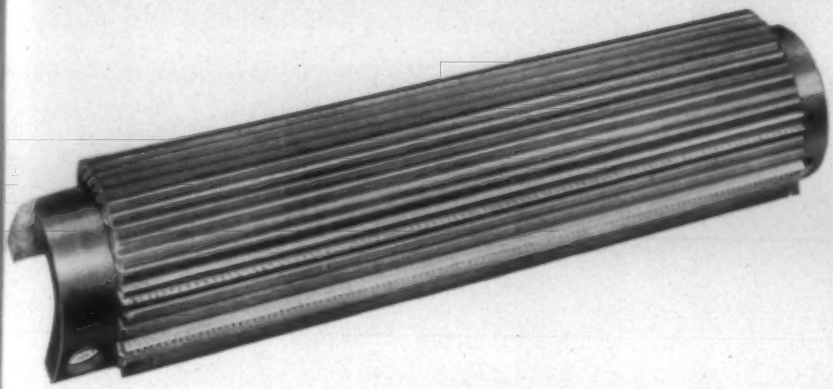

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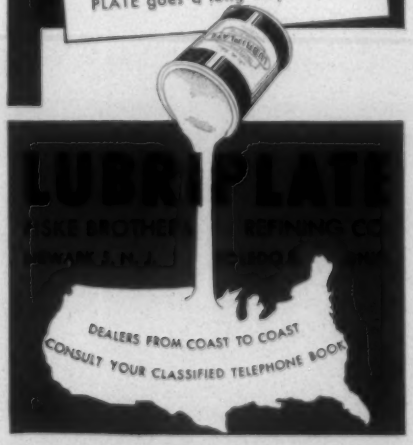

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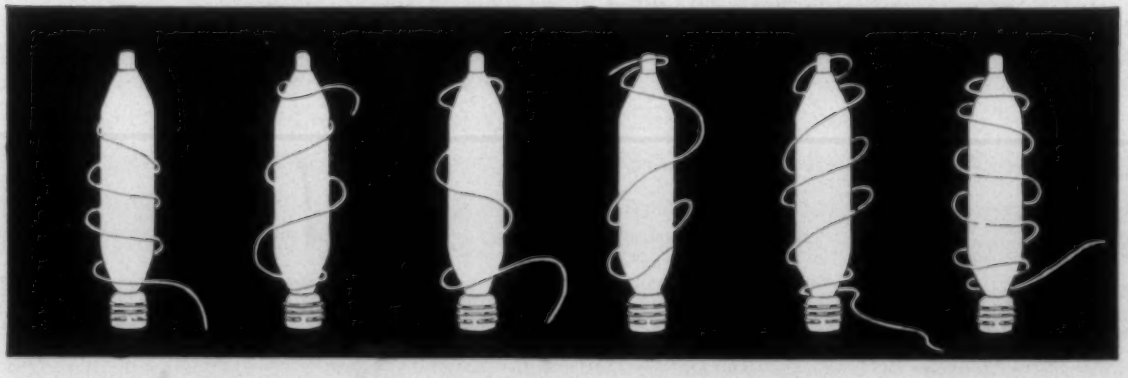

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